TAPR PIC Development and Technical Issues Special Interest Group Archive, January 1999 through December 1999

January 1999 through December 1999

TAPR's technical forum for Microchip PIC development and PIC-based TAPR projects, including the PIC-E and PIC Encoder kits, firmware, GPS interfaces, telemetry, packet-radio devices, construction, debugging, and hardware modifications.

This volume contains 12 original monthly files and 1,015 messages, arranged chronologically. The PDF is a readable access copy: MIME transfer encodings are decoded, HTML bodies are converted to plain text, and non-text attachments are represented by descriptive notes. The raw source text is supplied separately with the Internet Archive item.

This discussion archive complements the separately curated TAPR PIC-E and GPS-E kit software item.

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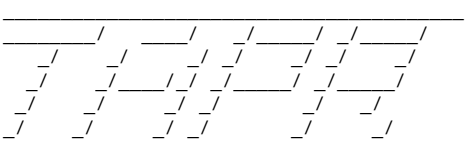
January 1999

Original source file: picsig.9901
Source: http://ftp.tapr.org/tapr_history/SIG_Archives/picsig/mail_archive/picsig.9901

1. Welcome to PIC SIG

From: Lyris <lyris@lists.tapr.org>
Date: Sun, 31 Jan 1999 21:03:45 -0600
To: lyris.picsig@tapr.org
Message-ID: <LYR6890-2713-1999.01.31-21.03.45--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

```
**********************************************************************
*                PLEASE SAVE THIS WELCOME MESSAGE!                   *
**********************************************************************
```



Welcome to the TAPR PIC Development and Technical Issues SIG

The purpose of this list is to provide a technical discussion area
concerning PIC development/technical issues and support for PIC related
TAPR kits like the PIC-Encoder.

Mechanics of the List

The PIC SIG mailing list charter is to provide a forum for the exchange of
information about the PIC Development and the TAPR PIC-E kits. News,
hints & kinks, case studies, and such are welcome parts that we hope will
become an important resource for those participating in the forum.

TAPR is committed to the success of the various SIG lists. All lists have
tremendous potential, but TAPR does not want that potential to be lost.

The criteria for appropriate publication are simple: messages should 1)
advance the discussion at hand, 2) not perpetuate one of our many Holy
Wars (i.e., my OS is bigger than your OS, or "your protocol stinks
because"), and 3) avoid personal attacks (FLAMES).

In addition, some TAPR lists are reported on the Packet BBS and other
networks. Therefore, refrain from using profanity, and do not use the
forum
to promote commercial activity. Please stay focused on the issues which
relate to the purpose of the forum charter.

If a messages from individuals over time continue to abuse these
standards, they will be removed from the list. If problems are frequent
to the point of problems, the mail list can become moderated at the
discretion of the SIG chairperson.

Our hope is that SIG members will bear in mind the goals of the SIGs when
posting messages, and that very few messages will be considered outside of
these standards. If you feel that you must FLAME someone, do it via
personal mail or use one of the many other places available to vent
spleen. The forums are setup for positive, productive, cooperative
discussions.

To post messages to the picsig list, send email to:

        picsig@lists.tapr.org

To unsubscribe from this mailing list, surf to:

   http://www.tapr.org/cgi-bin/lyris.pl?enter=picsig

or send email to:

lyris@lists.tapr.org

with the following line in the body of the message:

unsub picsig

The host of this list is:

Tucson Amateur Packet Radio (TAPR)
tapr@tapr.org
http://www.tapr.org
8987-309 E Tanque Verde Rd. #337, Tucson, AZ 85749-9399,
phone 940-383-0000, fax 940-566-2544

Just so that you have all the commands neatly contained in one place, here is just about everything you will need to know. Note that this list is running on a Lyris server. Please be aware that the commands might be different from those that you are used to using on other list servers. (For more information on Lyris, see <http://www.lyris.com/>.)

1. First of all, almost everything that you might need to do on the server is most easily and effectively performed via Lyris's Web interface at <http://www.tapr.org/cgi-bin/lyris.pl>.

2. In case you do not have Web access, here are some key commands; in all cases, the default server address is: <lyris@lists.tapr.org>. Other addresses are shown where appropriate. Note that commands may be placed in either the subject line or in the body of the message:

SUBSCRIBING:
  subscribe picsig your_name
  join picsig your_name
  alternate address: join-picsig@lists.tapr.org

UNSUBSCRIBING:
  unsubscribe picsig
  leave picsig
  alternate address: leave-picsig@lists.tapr.org

SETTING MEMBERSHIP TO DIGEST MODE:
  set picsig digest

SETTING MEMBERSHIP TO INDEX MODE:
  set picsig index

SETTING MEMBERSHIP TO DISCUSSION MODE:
  set picsig mail

TEMPORARILY SUSPENDING MAIL FROM THE LIST:
  set picsig nomail

RESUMING MAIL FROM THE LIST:
(command depends on your preferred mode)
  set picsig mail
  set picsig digest
  set picsig index

ACKNOWLEDGMENT:
  set picsig ack
    (sends you a confirmation message when your posts are sent)
  set picsig noack
    (no confirmation message when posts are distributed)

RECEIVING COPIES OF YOUR OWN POSTS:
  set picsig repro
    (receive copies of your own posts)
  set picsig norepro
    (do not receive copies of your own posts)

SETTING YOUR PASSWORD:
  set picsig pw=mypassword

(where "mypassword" is the password you wish to set)

DETERMINING YOUR MEMBERSHIP SETTINGS:
query picsig

RETRIEVING THE CURRENT VERSION OF THIS DOCUMENT:
get picsig hello

MORE INFORMATION ON LYRIS'S COMMANDS:
help

POSTING TO THE LIST:
You must be a subscriber to post messages. Sending
mail to this address will distribute it to all the members of the
mailing list: picsig@lists.tapr.org

3. CHANGING YOUR SETTINGS/ADDRESS VIA THE WEB INTERFACE: To do this, go to <http://www.tapr.org/cgi-bin/lyris.pl> and click the link in the "Change Your Settings" section. You'll need to enter your e-mail address and password (if you chose one) to continue.

(If you've forgotten your password, you can type in your e-mail address in the field at the bottom of the page and click "Get password" to request Lyris to e-mail your password to you.)

At the following page, you can read messages, post a message, adjust your settings, or unsubscribe. From the settings page, you can change your status (MAIL, DIGEST, INDEX, or NOMAIL), choose whether or not to see your own messages, and choose whether or not you want to receive a separate acknowledgement via e-mail when one of your messages is posted to the list, You can also change your e-mail address if you need to. When you change your settings, make sure you click the "Save" button at the bottom of the page.

4. ARCHIVES: The picsig SIG archives are available on the Web, at the following URL: <http://www.tapr.org/sigf.html>

5. BOUNCED MAIL: One of the key features of Lyris is its ability to handle mail bounces transparently to the list owner; as such, bounced mail will be handled primarily by the Lyris list server.

6. POSTS/REPLIES FROM DIGEST USERS: You *must* change the Subject: line when replying to a digest; all posts with "picsig DIGEST" in the Subject: line will be rejected by the server (you will receive a "rejection letter" when this happens).

February 1999

Original source file: picsig.9902
Source: http://ftp.tapr.org/tapr_history/SIG_Archives/picsig/mail_archive/picsig.9902

1. [picsig] Hello/Vitale

From: Jeff King <jeff@aerodata.net>
Date: Wed, 03 Feb 1999 17:10:38 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-3355-1999.02.03-16.07.08--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hello all:

Just seeing if the list server is working. Might as well also tell you a

little about myself as it relates to PIC's.

Been programming PIC's for about 4 years now. I mostly use CCS (a
PIC C compiler) and I own a current copy of PCW. I have a PICSTART
programmer and a ICEPIC emulator. I do it both as a hobby and also make
some money off it also.

Some of the projects I have done on the PIC's include a two way receiver

decoder for KEYLOC (16C77) (those little things on your keychain that
opens your car door), a video tape "serial number" control track encoder

(16C54/16C621), a KEYFOB transmitter (16C84), a Vector 2X dual
fluxgate compass program with differential detection (16C64), a
Video routing/inspection system controller (16C77),
a VCR control board (P-serial- 16C621) among other things.

I find myself now rarely using digital logic anymore preferring to
"throw a pic at the problem". I rarely use assembly language anymore,
preferring to use 'C' for most of my embedded controller work. I also
use ORCAD, both schematic capture and
the old DOS based PCB designer program.

I look forward to working on the PIC-E project and contributing what I
can.

Best regards,

Jeff King wb8wka
Farmington, Michigan

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

2. [picsig] Test Msg - Ignore

From: "Steven R. Bible" <n7hpr@tapr.org>
Date: Wed, 03 Feb 1999 17:28:49 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-3360-1999.02.03-16.27.31--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

One two three

- Steve
(n7hpr@tapr.org)
(n7hpr@amsat.org)

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

3. [picsig] Software area on TAPR ftp server?

From: Jeff King <jeff@aerodata.net>
Date: Thu, 04 Feb 1999 16:42:05 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Cc: picsig@lists.tapr.org, wd5ivd@tapr.org
Message-ID: <LYR6890-3546-1999.02.04-15.38.32--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Steve:

Could you and/or the alpha PICET software authors start to upload source
to the
TAPR FTP site? I see areas and been set up for this... Looking forward
to
getting started integrating things together.

I wire wrapped a pseudo PIC-ET based on the schematic you sent me. I say

pseudo because I changed a few things, I made the RS-232 input interrupt

based (going to RB0 ext_int) and am now coding a interrupt driven
$GPSRMC
routine. I got it working last night, and expect I will be done with it
this evening
(its loosely based on the EX_PBUSM.C example from the CCS compiler).

I've seen a few bits and pieces of whats been done to date, but wanted
to see the alpha release if its available. I also added a LCD display
but thats
mostly for diagnostics and not sure it will transfer very well to the
production
PIC-ET.

I also ordered a pre production PIC-ET from TAPR a few weeks ago.

Thanks!

Jeff King wb8wka

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

4. [picsig] Re: picsig digest: February 04, 1999

From: Mark Grennan <mgrennan@mail.fleming.com>
Date: Fri, 05 Feb 1999 08:51:56 -0600
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-3687-1999.02.05-08.52.34--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Also, I placed an order for 2 Pic-E's. How do I know if I was one of the 50.

KD5AMB

TAPR PIC Development Special Interest Group digest wrote:

> TAPR PIC Development Special Interest Group Digest for Thursday, February 04, 1999.
>
> 1. Software area on TAPR ftp server?
>
> --
>
> Subject: Software area on TAPR ftp server?
> From: Jeff King <jeff@aerodata.net>
> Date: Thu, 04 Feb 1999 16:42:05 -0500
> X-Message-Number: 1
>
> Steve:
>
> Could you and/or the alpha PICET software authors start to upload source
> to the
> TAPR FTP site? I see areas and been set up for this... Looking forward
> to
> getting started integrating things together.
>
> I wire wrapped a pseudo PIC-ET based on the schematic you sent me. I say
>
> pseudo because I changed a few things, I made the RS-232 input interrupt

>
> based (going to RB0 ext_int) and am now coding a interrupt driven
> $GPSRMC
> routine. I got it working last night, and expect I will be done with it
> this evening
> (its loosely based on the EX_PBUSM.C example from the CCS compiler).
>
> I've seen a few bits and pieces of whats been done to date, but wanted
> to see the alpha release if its available. I also added a LCD display
> but thats
> mostly for diagnostics and not sure it will transfer very well to the
> production
> PIC-ET.
>
> I also ordered a pre production PIC-ET from TAPR a few weeks ago.
>
> Thanks!
>
> Jeff King wb8wka
>
> ---
>
> END OF DIGEST
>
> ---
> You are currently subscribed to picsig as: mgrennan@fleming.com
> To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

---
You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

5. [picsig] Re: picsig digest: February 04, 1999

From: "Greg Jones, WD5IVD" <wd5ivd@tapr.org>
Date: Fri, 5 Feb 1999 11:32:58 -0600
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-3702-1999.02.05-11.33.47--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

You would have gotten a message from Dorothy saying that you didn't make
the cut.
I think you are probably okay.

Greg

>Also, I placed an order for 2 Pic-E's. How do I know if I was one of the 50.
>
>KD5AMB

Greg Jones, WD5IVD Austin, Texas
wd5ivd@tapr.org http://www.tapr.org/~wd5ivd

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

6. [picsig] Re: picsig digest: February 05, 1999

From: Mark Grennan <mgrennan@mail.fleming.com>
Date: Mon, 08 Feb 1999 17:26:51 -0600
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-4153-1999.02.08-17.27.26--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Way Cool! Now I'll have somemore things to do with the 25 16CF84's I orderd.

TAPR PIC Development Special Interest Group digest wrote:

> TAPR PIC Development Special Interest Group Digest for Friday, February 05, 1999.
>
> 1. Re: picsig digest: February 04, 1999
> 2. Re: picsig digest: February 04, 1999
>
> --
>

> Subject: Re: picsig digest: February 04, 1999
> From: Mark Grennan <mgrennan@mail.fleming.com>
> Date: Fri, 05 Feb 1999 08:51:56 -0600
> X-Message-Number: 1
>
> Also, I placed an order for 2 Pic-E's. How do I know if I was one of the 50.
>
> KD5AMB
>
> TAPR PIC Development Special Interest Group digest wrote:
>
> > TAPR PIC Development Special Interest Group Digest for Thursday, February 04, 1999.
> >
> > 1. Software area on TAPR ftp server?
> >
> > --
> >
> > Subject: Software area on TAPR ftp server?
> > From: Jeff King <jeff@aerodata.net>
> > Date: Thu, 04 Feb 1999 16:42:05 -0500
> > X-Message-Number: 1
> >
> > Steve:
> >
> > Could you and/or the alpha PICET software authors start to upload source
> > to the
> > TAPR FTP site? I see areas and been set up for this... Looking forward
> > to
> > getting started integrating things together.
> >
> > I wire wrapped a pseudo PIC-ET based on the schematic you sent me. I say
> >
> > pseudo because I changed a few things, I made the RS-232 input interrupt
> >
> > based (going to RB0 ext_int) and am now coding a interrupt driven
> > $GPSRMC
> > routine. I got it working last night, and expect I will be done with it
> > this evening
> > (its loosely based on the EX_PBUSM.C example from the CCS compiler).
> >
> > I've seen a few bits and pieces of whats been done to date, but wanted
> > to see the alpha release if its available. I also added a LCD display
> > but thats
> > mostly for diagnostics and not sure it will transfer very well to the
> > production
> > PIC-ET.
> >
> > I also ordered a pre production PIC-ET from TAPR a few weeks ago.
> >
> > Thanks!
> >
> > Jeff King wb8wka
> >
> > ---
> >
> > END OF DIGEST
> >
> > ---
> > You are currently subscribed to picsig as: mgrennan@fleming.com
> > To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org
>
> --
>
> Subject: Re: picsig digest: February 04, 1999
> From: "Greg Jones, WD5IVD" <wd5ivd@tapr.org>
> Date: Fri, 5 Feb 1999 11:32:58 -0600
> X-Message-Number: 2
>
> You would have gotten a message from Dorothy saying that you didn't make
> the cut.
> I think you are probably okay.
>
> Greg
>
> >Also, I placed an order for 2 Pic-E's. How do I know if I was one of the 50.
> >
> >KD5AMB
> -----
> Greg Jones, WD5IVD   Austin, Texas

> wd5ivd@tapr.org   http://www.tapr.org/~wd5ivd
>
> ---
>
> END OF DIGEST
>
> ---
> You are currently subscribed to picsig as: mgrennan@fleming.com
> To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

---
You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

7. [picsig] New...

From: "Adi Linden" <adi@adis.on.ca>
Date: Tue, 9 Feb 1999 00:09:34 -0600
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-4218-1999.02.09-00.12.00--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi,

I am very interested in the PIC-E. Is there any information available beyond
what's on the TAPR website? I.e. docs, sources, schematics?

Best regards,

Adi -VA3ADI

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

8. [picsig] Re: picsig digest: February 08, 1999

From: Mark Grennan <mgrennan@mail.fleming.com>
Date: Tue, 09 Feb 1999 09:04:49 -0600
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-4268-1999.02.09-09.05.34--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

The FTP site still isn't working.

I havn't seen a scematic on the Pic-E yet.

Does anyone know what modem chip it is using?

Is it using a 4 or 10mhz pic?

Can it drive both serical port at the same time?

What is the range of the power sorce voltiges?

Has anyone made a KIS TNC out of it yet?

KD5AMB
http://www.grennan.com/

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

9. [picsig] Re: picsig digest: February 08, 1999

From: Steve Dimse K4HG <k4hg@tapr.org>
Date: Tue, 9 Feb 1999 10:19:01 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-4271-1999.02.09-09.19.49--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On 2/9/99 10:04 AM Mark Grennan (mgrennan@mail.fleming.com) wrote:

>Does anyone know what modem chip it is using?
>
MX-614

>Is it using a 4 or 10mhz pic?
>
10 MHz

>Can it drive both serical port at the same time?
>
There is one serial port as wired. The other DB-9 is wired as a
programmer for the 16F84.

>Has anyone made a KIS TNC out of it yet?
>
Nope, and it would be quite difficult, if not impossible to do, because
with only 68 RAM locations on the 16F84, it cannot hold a long packet
while waiting to see if the CRC is correct before forwarding it to the
serial port. Likewise, you would have to be very careful about feeding
the data to a Pic-E/KISS TNC, as it could not hold it if the channel was
busy.

Steve K4HG

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

10. [picsig] Re: picsig digest: February 08, 1999

From: Jeff King <jeff@aerodata.net>
Date: Tue, 09 Feb 1999 12:31:28 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-4283-1999.02.09-11.26.51--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Mark Grennan wrote:

> I havn't seen a scematic on the Pic-E yet.

Steve Bible sent me one a while back and I ended up wirewrapping
a version up. You might want to ask Steve for a copy of the schematic.

> Is it using a 4 or 10mhz pic?

The 16F84 will run up to 10mhz. I think they have a 10mhz resonator
in it but I'm running mine at 4mhz at the moment and it seems to work.

> Can it drive both serical port at the same time?

The 16F84 actually doesn't have a serial port per say, its being done
in software. As the PIC-ET schematic is wired up, they have a serial
input for the GPS. This is done with a bit banging UART routine.

You have to remember the saying "its only software" which applies
here. So, in theory, if you wanted 6 serial ports on the 16F84, you
likely could do it. On my wirewrap version of the PIC-ET, I have
one serial port (interrupt driven RB0) that receives data from the
GPS, and another serial port (I2C) I used to talk to a LCD display.
All running at 4 mhz. At the (pre) production PIC-ET speed of 10mhz,
this should work even better.

> What is the range of the power sorce voltiges?

I *think* they have a 78L05 on the PIC-ET, so I'd say (guess) the input
voltages to run it would be in the range of about 7 volts to about 15
volts.
Most PICS can run from about 2.5 volts to 6 volts (the 78L05 is a 5 volt
regulator).

> Has anyone made a KIS TNC out of it yet?

I think Steve Dimese answered this fully with regards to the stock design.

However, if you added some more RAM, such as a PCF8570 I2C SRAM
chip, it would remove the ram constraints. This ram chip only requires 2
wires
as it is on the I2C serial bus, and is just a 8 pin DIP so should fit on
the
prototype area of the PIC-ET. I've not yet gotten one but have already
implemented a I2C bus on my board.

Remember, as I am told, (but I don't speak for TAPR) the PIC-ET is
a experimenters device. So the idea here is not to just take what is given

you (although it certainly is a useful device as is), but to change and
experiment
with it.

Good luck

Jeff King wb8wka

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

11. [picsig] Re: New...

From: "Greg Jones, WD5IVD" <wd5ivd@tapr.org>
Date: Tue, 9 Feb 1999 12:00:10 -0600
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-4296-1999.02.09-12.08.09--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

The development team is busy wrapping up the last details before we ship
the evals. When they ship, then the docs, schematics, etc will be
available on the web page and ftp site.

Hang tight.

Cheers - Greg

>Hi,
>
>I am very interested in the PIC-E. Is there any information available beyond
>what's on the TAPR website? I.e. docs, sources, schematics?
>
>Best regards,
>
>Adi -VA3ADI
>
>
>---
>You are currently subscribed to picsig as: wd5ivd@tapr.org
>To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

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Greg Jones, WD5IVD   Austin, Texas
wd5ivd@tapr.org   http://www.tapr.org/~wd5ivd

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12. [picsig] Ultimeter 2000 software

From: Steve Dimse K4HG <k4hg@tapr.org>
Date: Tue, 9 Feb 1999 22:24:07 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-4383-1999.02.09-21.26.32--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Just to whet your appetite, tonight I got my U-2000 software working. If
you look for K4HG-3 on the internet stream, you will see the living proof.

I am transmitting into a dummy load, one packet every 7 seconds or so,
with each U-2000 complete record mode string. Tomorrow I will work on the
timing so it is only transmitting every n minutes, add the beacon
function so it can transmit a position, and a few other bells and
whistles.

This is too much fun...

Steve K4HG

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13. [picsig] NMEA checksums?

From: Jeff King <jeff@aerodata.net>
Date: Wed, 10 Feb 1999 00:08:29 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-4391-1999.02.09-23.03.48--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Can someone explain the NMEA checksum to me?

I read it is a XOR of all the bytes between the $ and *, but looking at
it on a terminal
program I just see the * then two ASCII bytes, typically I am seeing
70's or 60's (a
two digit 76 for example in ascii).

I'm parsing the $GPRMC sentence at the moment.

Thanks

Jeff King wb8wka

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14. [picsig] Re: picsig digest: February 09, 1999

From: Mark Grennan <mgrennan@mail.fleming.com>
Date: Wed, 10 Feb 1999 09:09:56 -0600
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-4441-1999.02.10-09.10.46--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Thanks everyone for the great replies to my questions.

I do understand the PIC-E is a experimenters board. My 25 PIC16F84 came in last night
so I'm ready to start buinding and testing projects.

I was hoping someone had already extented the memory and created an TNC. Ok, another
project to work on.

I'm personaly interested in two project. My local ham group (MORI) is becoming very
interested in APRS. We have Digis covering a large part of the state and two
gateways. I LOVE the Mic-E project and think the Pic-E version would realy create some
interest. I'd like to see a surface mount version that could be worked into a radio
with just a three pin (phone plug) connecter for the GPS. My Repeater guy says he is
ready to capture all the data and move it over to the APRS freq.

My more personal project is a complete ICOM interface.
(http://mark.grennan.com/cici/) This first version used a parilel and serial port.
The new one will be only serial using a pic/s.

Has anyone checked out how fast the modem will go?   2400, 4800, 9600 baud?
Could we create a "small packets" network? And/or maybe calc the CRC on the fly?

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15. [picsig] Re: picsig digest: February 09, 1999

From: "Byon Garrabrant" <byon@mail.com>
Date: Wed, 10 Feb 1999 09:00:36 -0800
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-4462-1999.02.10-11.04.05--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On 10 Feb 99, at 9:09, Mark Grennan wrote:

> Has anyone checked out how fast the modem will go?   2400, 4800, 9600 baud?
> Could we create a "small packets" network? And/or maybe calc the CRC on the fly?

The Modem chip itself will "go" as fast as the code tells it to.
However, if you push it faster than 1200 baud, you will get less
then a full cycle of the lower tone per bit. I think that that won't be
enough to detect.

The PIC-E board is, in fact, a perfect way to experiment with
running the modem faster, since you can easily write the
transmitter and receiver code, and burn it into to PIC-Es and test
it!! I am assuming, however, that the fathers of packet somehow
determined that 1200 baud is the fastest reliable speed for
1200/2200 Hz through the mic jack.

I agree about the small packet network. If we limited the packet
size, the PIC-E could almost become a full TNC. And we already
do calc the CRC on the fly, for both transmission and reception.

Byon

_____
 Byon Garrabrant N6BG byon@mail.com

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

16. [picsig] Re: picsig digest: February 09, 1999

From: Jeff King <jeff@aerodata.net>
Date: Wed, 10 Feb 1999 12:21:24 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-4466-1999.02.10-11.16.42--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Mark Grennan wrote:

> I was hoping someone had already extented the memory and created an TNC. Ok, another
> project to work on.

It certainly could be done, but for a generic TNC, I can certainly think of better
architectures
then a 16F84. Now for specific tasks, maybe like mobile messaging, and APRS/MIC-E
stuff, its fairly well suited.

> interest. I'd like to see a surface mount version that could be worked into a radio
> with just a three pin (phone plug) connecter for the GPS. My Repeater guy says he is
> ready to capture all the data and move it over to the APRS freq.

The MIM module from Bob Clements is surface mount (he wrote the code for the
MIC-E). You might want to check this out also as he already did the surface mount
stuff. I've got 5 of them and they are nice designs.

> Has anyone checked out how fast the modem will go?   2400, 4800, 9600 baud?

Its a bell 202 modem on the PIC-ET. As such, it won't go much above 1200.

> Could we create a "small packets" network?

Sure, but see my comment above about the TNC.

-Jeff

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17. [picsig] MX-614 'stupid pet modem tricks', was Re: picsig digest: February 09, 1999

From: "Jeff King" <jeff@aerodata.net>
Date: Wed, 10 Feb 1999 14:27:18 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Cc: Mark Grennan <mgrennan@mail.fleming.com>
Message-ID: <LYR6890-4497-1999.02.10-13.28.48--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On 10 Feb 1999 09:00:36 Byon Garrabrant wrote:

>The Modem chip itself will "go" as fast as the code tells it to.
>However, if you push it faster than 1200 baud, you will get less
>then a full cycle of the lower tone per bit. I think that that won't be
>enough to detect.

Back in the TNC1 days, and using the WA8DED firmware, we
could set our HBAUD rate (to the TNC's radio modem chip,

a EXAR 2206/2211), at any rate we wanted to. 1440 baud worked
quite well over the air, and the fastest we used them was up to
about 1800 baud at which point performance was not so good.
I believe you can (and someone correct me if I am wrong) send
up to 2Xbaud times your shift, which is in fact how MSK modems
work. Non-phase coherent FSK won't work very well at that baud to
shift ratio.

So I'd suspect you can increase the speed slightly to the MX-614
although your performance will decrease. (BER will increase)

>The PIC-E board is, in fact, a perfect way to experiment with
>running the modem faster, since you can easily write the
>transmitter and receiver code, and burn it into to PIC-Es and test
>it!!

If your just looking for a "voice repeater" type MIC-E type
application, why not just dump AX.25 altogether? The MX-614 has
some neat features built into it. It actually has a hardware receiver
UART which would make it quite easy to implement a receive and
transmit with alot less overhead then the bit banging stuff requires.
I'm not sure if the current release of the PIC-ET takes advantage of
this, but a razor knife and a few jumpers could fix that. Instead of
the PIC having to look at every bit, the MX-614 can buffer up to 8 of
them, and then raise a flag line. The PIC then can clock the data
out at its leisure (1millisecond is a long time to a microprocessor!).
The feature of the MX-614 was put into place for the telephone
modem crowd, but there is no reason we can not take advantage of
it. Granted, it won't be ax.25 (it inserts a stop and start bit aka a
UART) but for certain applications it might be handy.

Its only software...

-Jeff King wb8wka
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18. [picsig] Re: NMEA checksums?

From: Jeff King <jeff@aerodata.net>
Date: Thu, 11 Feb 1999 00:00:47 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-4569-1999.02.10-22.56.06--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Jeff King wrote:

> Can someone explain the NMEA checksum to me?

Well, I found it, so for completeness, I'll answer my own question |-}

>From http://www.garmin.com/faqs:

:The checksum is the 8-bit exclusive OR (no start or stop bits) of all
:characters in the sentence, including the "," delimiters,
:between -- but not including -- the "$" and "*" delimiters.

:The hexadecimal value of the most significant and least significant 4
:bits of the result are converted to two ASCII characters (0-9,
:A-F) for transmission. The most significant character is transmitted
:first.

-Jeff

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19. [picsig] Novis Designer with Ideas for a FAQs

From: Mark Grennan <mgrennan@mail.fleming.com>
Date: Thu, 11 Feb 1999 10:52:22 -0600

To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-4671-1999.02.11-10.52.58--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Himmm, I'm just full of questions. Maybe I should copy all of this into a FAQ. What do you think?

> "Byon Garrabrant" <byon@mail.com> Wrote

> I agree about the small packet network. If we limited the packet
> size, the PIC-E could almost become a full TNC. And we already
> do calc the CRC on the fly, for both transmission and reception.

I own a palm pilot. I would like to build a unit that replaces a PicoPacket. One that would Read the GPS, transmit my location, receive APRS data and plot it. Do you think this could be done? It would need two serial ports on the Pic-E.

Next project is to include yet another serial line to connect to my radio (ICOM 706) and have the PIC monitor the radio's mode. It could then switch back and forth between the APRS freq and where I want to be (10meters) automagicly.

My first TRUE pic project will be to do the ICOM radio interface. I don't like the fact you can't ask it what freq it is on. You have to wait for a change for it to tell you. So, I want a PIC to set the freq/mode when the radio is turned on and then track changes. With this, I can use the radio at I want and if I'm not using it, the computer (a Linux box) can do things like switch to WWV and record the propagation report (18m after the hour) through the sound card and put it on my web site. (Just one idea)

> The MIM module from Bob Clements is surface mount (he wrote the code for the
> MIC-E). You might want to check this out also as he already did the surface mount
> stuff. I've got 5 of them and they are nice designs.
>

How do I get in touch with Bob? (I know this sounds silly, Us newbes are like that. :-)

> "Jeff King" <jeff@aerodata.net> Wrote
>
>
> Back in the TNC1 days, and using the WA8DED firmware, we
> could set our HBAUD rate (to the TNC's radio modem chip,
> a EXAR 2206/2211), at any rate we wanted to. 1440 baud worked
> quite well over the air, and the fastest we used them was up to
> about 1800 baud at which point performance was not so good.
> I believe you can (and someone correct me if I am wrong) send
> up to 2Xbaud times your shift, which is in fact how MSK modems
> work. Non-phase coherent FSK won't work very well at that baud to
> shift ratio.
>

Good comment, Great Idea too.

> If your just looking for a "voice repeater" type MIC-E type
> application, why not just dump AX.25 altogether? The MX-614 has
> some neat features built into it. It actually has a hardware receiver
> UART which would make it quite easy to implement a receive and
> transmit with alot less overhead then the bit banging stuff requires.
> I'm not sure if the current release of the PIC-ET takes advantage of
> this, but a razor knife and a few jumpers could fix that. Instead of
> the PIC having to look at every bit, the MX-614 can buffer up to 8 of
> them, and then raise a flag line. The PIC then can clock the data
> out at its leisure (1millisecond is a long time to a microprocessor!).
> The feature of the MX-614 was put into place for the telephone
> modem crowd, but there is no reason we can not take advantage of
> it. Granted, it won't be ax.25 (it inserts a stop and start bit aka a
> UART) but for certain applications it might be handy.
>

I'm not sure how best to extend a PIC's IO. I have seen a 4bit serial UART chip that would work with a PIC to give it TRUE serial. I've also seen a lot about Ic2 buss. There are all sorts of devices for this two bit buss. Maybe with it, a temp chip and a counter chip someone could make a APRS tracker/weather station.

Does anyone have experence with the Ic2 Buss?

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20. [picsig] Re: Novis Designer with Ideas for a FAQs

From: Jeff King <jeff@aerodata.net>
Date: Thu, 11 Feb 1999 14:09:42 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-4731-1999.02.11-13.04.56--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Mark Grennan wrote:

> > The MIM module from Bob Clements is surface mount (he wrote the code for the
> > MIC-E). You might want to check this out also as he already did the surface mount
> > stuff. I've got 5 of them and they are nice designs.
> >
>
> How do I get in touch with Bob?

http://www.agrelo.com/clement.html

> > application, why not just dump AX.25 altogether? The MX-614 has
> > some neat features built into it. It actually has a hardware receiver
> > UART which would make it quite easy to implement a receive and
>
> I'm not sure how best to extend a PIC's IO. I have seen a 4bit serial
> UART chip that would work with a PIC to give it TRUE serial.

Not sure if you got my point. The modem chip on the PIC-ET, the
MX-614, *ALREADY* has a 8 bit receiver UART on it. Its just,
not to my knowledge (I'm not a member of the PIC-ET team),
implemented on the design. It should however, be fairly easy to do.
Its important to note however that you'll not be able to do AX.25
using this, but this may not be a issue depending on your application.
(you can send 8bit ascii over the air just as easily (actually easier from
a programers perspective) as ax.25)

> I've also
> seen a lot about Ic2 buss. There are all sorts of devices for this two bit
> buss. Maybe with it, a temp chip and a counter chip someone could make
> a APRS tracker/weather station.

There is a fellow who already made a self contained weather station
using a PIC, if I find the link I will post it. He requires that that PIC be
hooked to a TNC to send the data though.... seems like that could be integrated
in if it could be adapted to the PIC-ET.

> Does anyone have experence with the Ic2 Buss?

As I write this, I am watching GPS data being displayed on a IC2 2X16 LCD
display (from Matrix engineering). This is being driven by my wirewrapped
'PIC-ET' using the IC2 libraries for the CCS PCM compiler. So doing
IC2, even bit banging it, is not to hard. I believe there are also assembly
examples on the microchip site. Again, I'm not sure if the production PIC-ET
has a IC2 bus on it, but would be easy to add (two 2.7K pull-ups).

-Jeff King wb8wka
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21. [picsig] Re: Novis Designer with Ideas for a FAQs

From: "Byon Garrabrant" <byon@mail.com>
Date: Thu, 11 Feb 1999 21:31:12 -0800
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-4840-1999.02.11-23.34.07--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On 11 Feb 99, at 10:52, Mark Grennan wrote:
>
> Does anyone have experence with the Ic2 Buss?

As a matter of fact, one of the earlier PIC-E prototypes used a I2C
tone chip in place of the modem chip. I'll send you that code when
I get my PIC-E code wrapped up.

Byon

_____
Byon Garrabrant N6BG byon@mail.com

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22. [picsig] I'm REALY excited!!!

From: Mark Grennan <mgrennan@mail.fleming.com>
Date: Fri, 12 Feb 1999 10:12:36 -0600
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-4907-1999.02.12-10.13.31--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> Jeff King wrote

 > Not sure if you got my point. The modem chip on the PIC-ET, the
 > MX-614, *ALREADY* has a 8 bit receiver UART on it. Its just,
 > not to my knowledge (I'm not a member of the PIC-ET team),
 > implemented on the design. It should however, be fairly easy to do.
 > Its important to note however that you'll not be able to do AX.25
 > using this, but this may not be a issue depending on your application.
 > (you can send 8bit ascii over the air just as easily (actually easier from
 > a programers perspective) as ax.25)

Your right. I got it now. I download the spec sheet for the MX-614. After I read it no
dought I'll have lots more questions.

 > There is a fellow who already made a self contained weather station
 > using a PIC, if I find the link I will post it. He requires that that PIC be
 > hooked to a TNC to send the data though.... seems like that could be integrated
 > in if it could be adapted to the PIC-ET.

I heard that on the RealAudio out-takes on the TAPR web site. I thought he was using one of
those large (expensive) weather stations. I was thinking os something a little smaller.

 > Byon Garrabrant wrote

 > As a matter of fact, one of the earlier PIC-E prototypes used a I2C
 > tone chip in place of the modem chip. I'll send you that code when
 > I get my PIC-E code wrapped up.

Thanks. Great.

Q. How could a Pic-E be used on a repeater to pic :-) up the Mic-E type transmitions and
re-transmite them on the APRS freq. I don't know anything about repeaters.

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23. [picsig] PIC-E as a TNC

From: Steve Pelletier <SPELLETI@ONEIDANATION.ORG>
Date: Fri, 12 Feb 1999 11:12:36 -0600
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-4912-1999.02.12-11.16.01--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hello,

I am new to the list and am very interested in a "full TNC" implementation
with the PIC and 614 chip. I have seen a few others talking about this as
well. One thing that would be useful is to implement a serial eeprom
such as a 2416 so all of the calculations do not need to be done on the
fly. This will help a lot on the decoding of the AX25 packets. Another
discussion I saw was adding a second serial port to the PIC-E with a
small UART. There are quite a few implementations of software UARTs
for the PIC that simply use a MAX232 chip for the voltage level
conversions. I actually do most of my PIC developement in C, and the
compiler I have has the UART routines built into it.

If anyone is aware of C routines for AX25 encode/decode I would be
very interested in using them to implement a complete TNC on the PIC. I
would also be interested in assembly language routines for AX25 on the

PIC and embedding them in my C code.

Steve
KB9OAL

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24. [picsig] Re: I'm REALY excited!!!

From: "Jeff King" <jeff@aerodata.net>
Date: Fri, 12 Feb 1999 12:26:32 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-4913-1999.02.12-11.28.03--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Mark Grennan wrote:

>
> > There is a fellow who already made a self contained weather station >
> using a PIC,
>
> I heard that on the RealAudio out-takes on the TAPR web site. I thought
> he was using one of those large (expensive) weather stations. I was
> thinking os something a little smaller.

Yeap, that is Steve Dimse.

This is the one I was thinking about:

http://www.phanderson.com/weather/index.html

However, he is selling it as a kit and doesn't appear to have
source code available. A quick search on the web did find alot of
people doing weather stations on a PIC. None of them however,
have the station generate the ax.25 frames onboard. This is what I
would say you (?) should do by adapting some of these ideas to
the PICET.

http://www.brouhaha.com/~eric/pic/rich.html#66
(Describes a weather station project)

http://ourworld.compuserve.com/homepages/steve_lawther/weather.
htm
(note wordwrap cut off the last htm, this site also has code for
DALLAS 1820 temp sensor)

http://www.oeonline.com/~tparnell/index.html
(this is the the basicstamp, but very detailed site, lots of ideas and
sensor information, do go to this one)

http://www.phanderson.com/stamp/wx_index.html
(another basic stamp one with a tutorial and some source)

http://midkan.com/gshipley/
(This is a java based weather station that uses a PIC to collect the
data)
http://midkan.com/gshipley/weather/explain.htm
(This explains the PIC side of it.)

Also in my travels, I ran across a number of free/Shareware PIC 'C'
compilers if you want to program in C (I know at least two
members of the PIC-ET team were doing things in 'C', using the
$99 PCM compiler).

http://personal.eunet.fi/pp/jokinen/
(this is for the 16C84, should work on 16F84 also)

http://sca.enlace.com.mx/c2c/c2c/c.html
(this is a PIC C compiler running under both windows and
LINUX, looks interesting but I haven't tried it. Its freeware/
shareware ($17))

This is the CCS 'PCM' C compiler ($99):

http://www.ccsinfo.com

The above links should keep you busy for a little while.

-Jeff King wb8wka
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25. [picsig] Re: PIC-E as a TNC

From: "Jeff King" <jeff@aerodata.net>
Date: Fri, 12 Feb 1999 12:43:33 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-4915-1999.02.12-11.45.01--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Steve Pelletier said:

> One thing that would be useful is to implement a serial eeprom such
> as a 2416 so all of the calculations do not need to be done on the fly.
> This will help a lot on the decoding of the AX25 packets.

A serial E2 takes quite a while for a write operation, I don't think it
is good for what amounts to RAM scratchpad type operations. A
better choice would be a serial SRAM chip.

> Another
> discussion I saw was adding a second serial port to the PIC-E with a small
> UART. There are quite a few implementations of software UARTs for the PIC
> that simply use a MAX232 chip for the voltage level conversions.

I'm cheap, feeding the RS-232 voltage from my GPS into the PIC
through a 10K resistor and it seems to work fine (you of course
need to reverse the logic of the RS-232 as the MAX232 inverts the
signal, as it is supposed to do in addition to the voltage
conversion). The 10K resistor limits the current the GPS can
source into the PIC's RS-232 input (RS-232 is +-12V, the PIC is
limited to 0-5volts signals clamped to VCC/VSS).

> actually do most of my PIC development in C, and the compiler I have has
> the UART routines built into it.

CCS possibly? They have a example of the SRAM chip I
mentioned above.... you don't even need a registration number to
download the examples from the web site.

http://www.ccsinfo.com/download.html

>
> If anyone is aware of C routines for AX25 encode/decode I would be
> very interested in using them to implement a complete TNC on the PIC.

Check out the source for the various flavors of NOS, look at
ftp.ucsd.edu under hamradio. Written for PC's however.

-Jeff King wb8wka
(C) 1999

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

26. [picsig] Re: PIC-E as a TNC -Reply

From: Steve Pelletier <SPELLETI@ONEIDANATION.ORG>
Date: Fri, 12 Feb 1999 13:24:25 -0600
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-4931-1999.02.12-13.27.47--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Yes I am using the CCS compiler. I am actually working on a fully digital
remote control and telemtry system for a solar powered model airplane.
Hence the need for a full modem. The device in the plane will be acting
as an autopilot, telemtry encoder, and reciever to conver the digital
control messages to PWM to control the plane. We set an altitude record
with our telemetry implementation last year and hope to set more records

this year. If you are interested in the application you can visit

http://www.execpc.com/~dbeck/solar

Once full TNC type capabilities are built on the PIC, the applications are
endless. Particularly with Microchips new high voltage microcontrollers
capable of interfacing directly with 12+ volts.

Steve

>>> "Jeff King" <jeff@aerodata.net> 02/12/99 11:43am >>>
Steve Pelletier said:

> One thing that would be useful is to implement a serial eeprom such
> as a 2416 so all of the calculations do not need to be done on the fly.
> This will help a lot on the decoding of the AX25 packets.

A serial E2 takes quite a while for a write operation, I don't think it
is good for what amounts to RAM scratchpad type operations. A
better choice would be a serial SRAM chip.

> Another
> discussion I saw was adding a second serial port to the PIC-E with a
small
> UART. There are quite a few implementations of software UARTs for
the PIC
> that simply use a MAX232 chip for the voltage level conversions.

I'm cheap, feeding the RS-232 voltage from my GPS into the PIC
through a 10K resistor and it seems to work fine (you of course
need to reverse the logic of the RS-232 as the MAX232 inverts the
signal, as it is supposed to do in addition to the voltage
conversion). The 10K resistor limits the current the GPS can
source into the PIC's RS-232 input (RS-232 is +-12V, the PIC is
limited to 0-5volts signals clamped to VCC/VSS).

> actually do most of my PIC development in C, and the compiler I have
has
> the UART routines built into it.

CCS possibly? They have a example of the SRAM chip I
mentioned above.... you don't even need a registration number to
download the examples from the web site.

http://www.ccsinfo.com/download.html

>
> If anyone is aware of C routines for AX25 encode/decode I would be
> very interested in using them to implement a complete TNC on the PIC.

Check out the source for the various flavors of NOS, look at
ftp.ucsd.edu under hamradio. Written for PC's however.

-Jeff King wb8wka
(C) 1999

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27. [picsig] Re: PIC-E as a TNC -Reply

From: "Jeff King" <jeff@aerodata.net>
Date: Fri, 12 Feb 1999 15:25:25 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-4944-1999.02.12-14.26.59--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Steve Pelletier said:

> Yes I am using the CCS compiler. I am actually working on a fully digital
> remote control and telemtry system for a solar powered model airplane.
> Hence the need for a full modem. The device in the plane will be acting
> as an autopilot, telemtry encoder, and reciever to conver the digital
> control messages to PWM to control the plane. We set an altitude record
> with our telemetry implementation last year and hope to set more records
> this year. If you are interested in the application you can visit
>

> http://www.execpc.com/~dbeck/solar

So absolutely cool!!

Hey, I noticed two things on the web page. They indicated a
problem with the weight of the GPS receiver and electronic
compass. Check this one out:

http://www.u-blox.ch/

They have a GPS receiver that weighs 8 grams and is
30mmX30mmX7.7mm (about the same size as a 84pin PLCC)

On the electronic compass, I've used the Vector 2X before and it
seems fairly light. See:

http://www.pcweb.com/pni/oem/

I also wrote some CCS 'C' code to decode its readings. If your
interested, I can dig it up and send it to you.

-Jeff

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

28. [picsig] Re: PIC-E as a TNC -Reply -Reply

From: Steve Pelletier <SPELLETI@ONEIDANATION.ORG>
Date: Fri, 12 Feb 1999 15:13:14 -0600
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-4959-1999.02.12-15.19.12--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hello,

We are using the glass cells for the efficiency. This year we are building
a bigger wing for more lift and more power. Dave (WB0RAG), the
owner of the plane, has several sourcesfor the cells. I just do the micro
controller and some of the radio related things. Dave got me involved
because of some APRS work I do for a local marathon.

I am using a vector 2x compass myself. I have some crude C routines
for it, but time limitations last year kept me from ironing all of the bugs out
of them. It would be great if I could see what you did for routines.

As far as the battery goes, we cannot have any batteries connected to
the motor at all. We currently have a small battery to provide backup
power to the electronics. One of the other things we are working on for
peak power is a variable pitch propeller though. This way we can
optimize power by trimming the prop and or changing speed of the prop.
These could get to be some ugly algorithms though.

Dave is focusing on the hobby aspects of the project, another Ham
(W9IEI) who has also been doing radio work on the project, and I have
been thinking a bit toward commercial applications though. There are
even a few military bases that want us to fly over them so they can try
to paint the plane with RADAR.

We have also been in contact with another individual in Germany who
has some fairly stable and well tested autopilot routines for his powered
models. These are also on the PIC. We are just starting to work with him
to set up a flexible autopilot/control/telemetry system.

My plans are to use a simplex frequency, 2M or 70cm, for both control
and telemetry. On take off and landing there will be minimal telemetry, but
as the plane gets to safer altitudes more and more of the duty cycle will
be given to telemetry as more control is given to the autopilot. This duty
cycle will be negotiated by the controllers on both ends, with the ability to
override and get full control on the ground again at any time. This system
also prevents one RF system for desensing the other and reduces the
number of antennas we need on the plane.

Thanks for any input you can provide. It looks like we are on our way to
making quite a sophisticated system here.

Steve

KB9OAL

>>> "Jeff King" <jeff@aerodata.net> 02/12/99 02:25pm >>>
Steve Pelletier said:

> Yes I am using the CCS compiler. I am actually working on a fully digital
> remote control and telemtry system for a solar powered model airplane.
> Hence the need for a full modem. The device in the plane will be acting
> as an autopilot, telemtry encoder, and reciever to conver the digital
> control messages to PWM to control the plane. We set an altitude
record
> with our telemetry implementation last year and hope to set more
records
> this year. If you are interested in the application you can visit
>
> http://www.execpc.com/~dbeck/solar

So absolutely cool!!

Hey, I noticed two things on the web page. They indicated a
problem with the weight of the GPS receiver and electronic
compass. Check this one out:

http://www.u-blox.ch/

They have a GPS receiver that weighs 8 grams and is
30mmX30mmX7.7mm (about the same size as a 84pin PLCC)

On the electronic compass, I've used the Vector 2X before and it
seems fairly light. See:

http://www.pcweb.com/pni/oem/

I also wrote some CCS 'C' code to decode its readings. If your
interested, I can dig it up and send it to you.

-Jeff

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29. [picsig] Re: PIC-E as a TNC -Reply -Reply

From: Steve Pelletier <SPELLETI@ONEIDANATION.ORG>
Date: Fri, 12 Feb 1999 15:44:43 -0600
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-4965-1999.02.12-15.50.57--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

My appologies for the last post. It was a reply to another message.
Sorry for getting off topic.

Steve
KB9OAL

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30. [picsig] Pic-ET Schematic

From: Geoff Webb <photon_0107@yahoo.com>
Date: Fri, 12 Feb 1999 15:18:13 -0800 (PST)
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-4975-1999.02.12-17.21.22--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Is there a schematic available for the project? I'm not a tapr member
(I will be soon), and I want to mess with the project now, instead of
waiting for a second run of board.

Any info would be greatly appreciated.

==
Geoff Webb
N7ZRR
photon_0107@yahoo.com

_____
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31. [picsig] Re: PIC-E as a TNC

From: "Byon Garrabrant" <byon@mail.com>
Date: Fri, 12 Feb 1999 20:55:57 -0800
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-5036-1999.02.12-22.58.59--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On 12 Feb 99, at 11:12, Steve Pelletier wrote:

> I am new to the list and am very interested in a "full TNC" implementation
> with the PIC and 614 chip. I have seen a few others talking about this as
> well. One thing that would be useful is to implement a serial eeprom
> such as a 2416 so all of the calculations do not need to be done on the
> fly. This will help a lot on the decoding of the AX25 packets. Another
> discussion I saw was adding a second serial port to the PIC-E with a
> small UART. There are quite a few implementations of software UARTs
> for the PIC that simply use a MAX232 chip for the voltage level
> conversions. I actually do most of my PIC developement in C, and the
> compiler I have has the UART routines built into it.

The calculation part of the TNC implementation is not the problem.
We are curently encoding and decoding with NRZI, bit stuffing, and
CRC generation. The problem is the RAM requirements. A TNC
needs to receiving an entire packet, and validate the CRC before
begining to send out the serial port to the PC. It should be possible
to build a "full TNC" with the limitation of very short packets, and no
PC->PIC-E packet queueing, tho.

> If anyone is aware of C routines for AX25 encode/decode I would be
> very interested in using them to implement a complete TNC on the PIC. I
> would also be interested in assembly language routines for AX25 on the
> PIC and embedding them in my C code.

There will be both C and ASM AX.25 routines for sending and
receiving and examples released once this project is in full swing.

Stand by... :)

Byon

_____
 Byon Garrabrant N6BG byon@mail.com

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

32. [picsig] Re: PIC-E as a TNC

From: Jeff King <jeff@aerodata.net>
Date: Sat, 13 Feb 1999 00:48:32 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-5042-1999.02.12-23.43.49--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Byon Garrabrant wrote:

> There will be both C and ASM AX.25 routines for sending and
> receiving and examples released once this project is in full swing.

When would this be?

As a side note, lets not lose sight of the fact that this is supposed to be
a beta test, and as such, things don't need to be PERFECT before we
release them to the 50 beta testers. From what I have seen on here so far,
you've got some fairly sharp people on this list and I think they can deal
with a few "rough edges" on some of the code and/or design.

-Jeff

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33. [picsig] Re: PIC-E as a TNC

From: "Greg Jones, WD5IVD" <wd5ivd@tapr.org>
Date: Sat, 13 Feb 1999 09:51:27 -0600
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-5113-1999.02.13-10.02.26--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

When the eval kits are shipping next week sometime we will be working on
putting all the items (code, schematics, etc) on the ftp site and web pages.

Cheers - Greg

>Byon Garrabrant wrote:
>
>> There will be both C and ASM AX.25 routines for sending and
>> receiving and examples released once this project is in full swing.
>
>When would this be?
>
>As a side note, lets not lose sight of the fact that this is supposed to be
>a beta test, and as such, things don't need to be PERFECT before we
>release them to the 50 beta testers. From what I have seen on here so far,
>you've got some fairly sharp people on this list and I think they can deal
>with a few "rough edges" on some of the code and/or design.
>
>
>-Jeff
>
>
>
>---
>You are currently subscribed to picsig as: wd5ivd@tapr.org
>To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

-----
Greg Jones, WD5IVD   Austin, Texas
wd5ivd@tapr.org   http://www.tapr.org/~wd5ivd

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34. [picsig] SRAM Alternatives

From: "John Hansen" <john@hansen.net>
Date: Sun, 14 Feb 1999 13:0:32
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-5320-1999.02.14-13.01.27--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Steve Pelletier said:

> One thing that would be useful is to implement a serial eeprom such
> as a 2416 so all of the calculations do not need to be done on the fly.
> This will help a lot on the decoding of the AX25 packets.

One problem with this is that they have a limited number of read/write
cycles. Given how frequently they would be written to in packet
communication, this is probably not a viable alternative.

SRAMs might work, but their storage capacity is quite low.

One other possible alternative, however, is a FRAM. These are

pin-compatible with eeproms, and you can communicate with them serially.
However, they can have many more write cycles than do eeproms. 10 Billion,
if I remember correctly. That means you could do one a second and have
them last for years.

see www.ramtron.com. Their 2kx8 unit costs less than $2 quantity one.
I've got a couple here for experimentation purposes; I just haven't gotten
around to doing anything with them yet.

John W2FS

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35. [picsig] Re: SRAM Alternatives

From: Jeff King <jeff@aerodata.net>
Date: Sun, 14 Feb 1999 15:16:40 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-5334-1999.02.14-14.11.47--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

John Hansen wrote:

> SRAMs might work, but their storage capacity is quite low.

I think you just need about 256 bytes or so for a frame, and worst
case that would be 7*256 (ax.25 implementations I have seen allow
up to 7 frames to be outstanding).

> One other possible alternative, however, is a FRAM.

My concern was with write time, which on EEproms can be fairly
long. Now this product appears not to have this problem, and appears
inexpensive.

-Jeff wb8wka

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36. [picsig] Re: SRAM Alternatives

From: James Jefferson <jjeffers@deskmedia.com>
Date: Sun, 14 Feb 1999 18:23:02 -0600
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-5388-1999.02.14-18.23.52--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>see www.ramtron.com. Their 2kx8 unit costs less than $2 quantity one.
>I've got a couple here for experimentation purposes; I just haven't gotten
>around to doing anything with them yet.

I have the FM2416, I think that is the same as John has. I've been testing
them a little and they seem about perfect for this application. The write
time is limited only by the I2C bus speed, which is also fine for this
application. The Ramtron rep that I talked to said the the chip has almost
unlimited write cycles.

On my website is the PCM 'C' library that will work with the above chip. It
is almost identical to the 2416.
http://www.deskmedia.com/~jjeffers/packet/pic/ should get you there.

-James Jefferson KB0THN
jjeffers@deskmedia.com
http://www.deskmedia.com/~jjeffers/

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37. [picsig] Re: Novis Designer with Ideas for a FAQs

From: "Adi Linden" <adi@adis.on.ca>
Date: Mon, 15 Feb 1999 21:43:14 -0600

To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-5691-1999.02.15-21.45.43--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I've been doing a number of things using I2C and some cheap alphanumeric LCD
display (<$10). I made a little webpage with one of the first of these
projects... http://adis.on.ca/~adi/Projects.html

Adi

>> I've also
>> seen a lot about Ic2 buss. There are all sorts of devices for this two
bit
>> buss. Maybe with it, a temp chip and a counter chip someone could make
>> a APRS tracker/weather station.
>
>There is a fellow who already made a self contained weather station
>using a PIC, if I find the link I will post it. He requires that that PIC
be
>hooked to a TNC to send the data though.... seems like that could be
integrated
>in if it could be adapted to the PIC-ET.
>
>> Does anyone have experence with the Ic2 Buss?
>
>As I write this, I am watching GPS data being displayed on a IC2 2X16 LCD
>display (from Matrix engineering). This is being driven by my wirewrapped
>'PIC-ET' using the IC2 libraries for the CCS PCM compiler. So doing
>IC2, even bit banging it, is not to hard. I believe there are also assembly
>examples on the microchip site. Again, I'm not sure if the production
PIC-ET
>has a IC2 bus on it, but would be easy to add (two 2.7K pull-ups).

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38. [picsig] PIC-ET schematics on TAPR ftp site

From: "Jeff King" <jeff@aerodata.net>
Date: Wed, 17 Feb 1999 13:56:49 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-6041-1999.02.17-12.58.30--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

For those who were asking about the schematics for the PIC-ET I
see they are now on the tapr FTP site (ftp.tapr.org) as of Monday.

No applications yet (other then a diagnostic program) though.

In /picsig/docs is the schematics and board layout for the PIC-ET.
Also under this directory, is some info on the MX-614 (the modem
on the PIC-ET) and also some info on the 16F84 microcontroller.

Under /picsig/software is a utility written by Byon Garrabrant,
N6BG to test the PIC-ET. Also in the same directory appears to be
the PIC-ET programmer and a assembler.

/picsig/upload now appears to be functional, although I haven't
tried it yet.

-Jeff WB8WKA

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

39. [picsig] Re: PIC-ET schematics on TAPR ftp site

From: Steve Dimse K4HG <k4hg@tapr.org>
Date: Wed, 17 Feb 1999 14:06:37 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-6045-1999.02.17-13.08.07--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On 2/17/99 1:56 PM Jeff King (jeff@aerodata.net) wrote:

>Under /picsig/software is a utility written by Byon Garrabrant,

>N6BG to test the PIC-ET. Also in the same directory appears to be
>the PIC-ET programmer and a assembler.
>
There is a bit of confusion about the name of the TAPR product, which is
the Pic-E, or Pic Encoder. PIC-ET was a play on words used by John Hansen
at the DCC for packet radio using the PIC...

Yes, we are adding things to the TAPR ftp site, more stuff coming soon!

Steve K4HG

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40. [picsig] Re: PIC-E schematics on TAPR ftp site

From: "Jeff King" <jeff@aerodata.net>
Date: Wed, 17 Feb 1999 14:27:17 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-6051-1999.02.17-13.28.59--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Steve Dimse said:

>There is a bit of confusion about the name of the TAPR product,
>which is
>the Pic-E, or Pic Encoder. PIC-ET was a play on words used by
>John Hansen
>at the DCC for packet radio using the PIC...

Sorry about that. John's presentation was the main reason I went to
the DCC, and I guess it made an impression on me! I stand
corrected.

-Jeff

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

41. [picsig] PIC-E MOD, 2 more bits of I/O

From: "Jeff King" <jeff@aerodata.net>
Date: Wed, 17 Feb 1999 15:10:31 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-6055-1999.02.17-14.12.11--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

If you need more I/O on the PIC-E for some other devices, here is
one mod you can do:

Switches SW1 (RA4 input) and SW2 (RB5 input) can be move to
RB7 and RB6. This will share the inputs used to program the PIC,
which seem to be devoted to this purpose. This will give you two
more additional pins of I/O on the PIC-E. You don't even need to
worry about the 10K pullups as you can just enable (or disable) the
built-in internal pullups on PORTB in your software.

Only warning on this mod is neither switch can be shorted to
ground when you program the PIC-E. Of course, you'll need to re-
define your pins in your software.

For example, these two freed up I/O ports will now allow you to add
a I2C bus to the PIC-E.

-Jeff

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42. [picsig] PIC-E Kit success

From: Gary Sanders <gsanders@gte.net>
Date: Wed, 17 Feb 1999 16:12:32 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-6062-1999.02.17-15.13.34--lyris.picsig#tapr.org@lists.tapr.org>

Rendered body type: text/plain

Just a quick note to the group to let you know of my
experience assembling the PIC-E kit, which is one of
the group of 50.

I only had 2 problems, one of which was caused by
ignoring the instruction to read the entire document
before beginning assembly. When I got to the instruction
that had me assemble the 3 pin jumper for J4/J5/J6, I
tried to install it at that step, and of course there was
no place to install it, because there were already jumpers
in all 8 J4/J6 locations, per the previous instruction!
Of course, had I read the entire document, I would have
realized _why_ I was having difficulty. Another one of
those senior moments.

The other anomaly was the kit I received had 2 female
DB-9's rather than the male and female that the document
described. (Steve B, I realize this may have been intentional
because you mentioned to me that some connector types weren't
necessarily finalized).

Otherwise, it came up without difficulty, after loading the
diagnostic program.

I downloaded quite a bit of documentation from Microchip's
site. Now I need to learn how to program it!

Gary Sanders   WB0BZR

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

43. [picsig] Source Code Available!

From: Steve Dimse <sdimse@netrox.net>
Date: Thu, 18 Feb 1999 06:01:31 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-6182-1999.02.18-05.04.05--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

A very early version of my Ultimeter 2000 code for the Pic-E is available
on the picsig ftp site:

ftp://ftp.tapr.org/picsig/software/u2k.zip

I still have lots to do on this, but it does work, presently sending a
report once a minute. I'm posting an early version to give those people
eager to get started something to look at. There also is a web page
describing the project at:

http://www.aprs.net/wxp.html

Enjoy!

Steve K4HG

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

44. [picsig] [ss] PIC Spread Transmitter Page

From: Steve Bragg <steveb@skymaster.c2-tech.com> (by way of Greg Jones,
 WD5IVD)
Date: Thu, 18 Feb 1999 17:14:14 -0600
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-6324-1999.02.18-17.23.18--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Here is something that got posted to the TAPR Spread Spectrum list.

Cheers - Greg

SS'ers,

Well, here it is, such that it is. The PIC DS spread spectrum

transmitter.

http://www.c2-tech.com/~steveb/ka9mva/spread.htm

Have fun.

73,

Steve KA9MVA
--
Steve Bragg KA9MVA
Project Engineer
C2 Technologies, Inc.
100 Reunion Center, on Main Mall
9 East 4th
Tulsa, Oklahoma 74103
ICQ:29816109

You are currently subscribed to ss as: WD5IVD@TAPR.ORG
To unsubscribe send a blank email to leave-ss-4754E@lists.tapr.org

---
You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

45. [picsig] Jim Krutzler

From: "Greg Jones, WD5IVD" <wd5ivd@tapr.org>
Date: Thu, 18 Feb 1999 23:12:32 -0600
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-6399-1999.02.18-23.13.49--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

This is a test to see if Jim Krutzler is getting e-mail.

Jim, let me know if you get this okay.

Greg

Greg Jones, WD5IVD Austin, Texas
wd5ivd@tapr.org http://www.tapr.org/~wd5ivd

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

46. [picsig] where to get MX614P?

From: "Art Alto" <aalto@linkline.com>
Date: Fri, 19 Feb 1999 17:38:29
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-6656-1999.02.19-17.39.33--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

does someone know where to buy MX614's? I have been unable to get MX-COM
to answer any of my e-mails.

Art Alto N6VIG

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

47. [picsig] Test - Please Ignore

From: "Steven R. Bible" <srbible@gate.net>
Date: Fri, 19 Feb 1999 18:55:42 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-6661-1999.02.19-17.54.17--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Test - Please Ignore

- Steve
(n7hpr@tapr.org)
(n7hpr@amsat.org)

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

48. [picsig] pigsig pcb electronic layout image

From: "jason" <canadayj@mailhost.sd221.k12.id.us>
Date: Fri, 19 Feb 1999 17:00:21 -0700
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-6663-1999.02.19-17.59.18--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I'm sorry to say that I can't help you with finding the MX614 ic; I've been
having
the same problem with mxcom not responding.

My question to you is do you know where I can get a copy of the circuit
image
used in etching the pcb board?

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

49. [picsig] GPS-E-2 Uploaded

From: John Hansen <hansen@del.cs.fredonia.edu>
Date: Sat, 20 Feb 1999 16:29:26 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-6816-1999.02.20-15.31.30--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

My PIC-E program GPS-E-2.ZIP has been added to the picsig/software
directory. It includes the source code in C for my mic-encoder
application. It also includes a Win95/Win98/WinNT program (GPS-E-2.EXE)
that will allow you to easily customize the resulting .HEX file so that it
will include all the parameters (callsign, path, beacon, etc. etc.) you
need to use the PIC-E as a mic-encoder. It supports 2 configurations which
are user selectable using the "Mode" switch and it supports both automatic
and manual operation within each of these configurations using the "Option"
switch. Be sure to read the brief documentation file before using it.

You do not need a C compiler to use this program... it is a stand-alone
program which is capable both of generating a .HEX file that can be burned
into the PIC-E, and for many computers, it will also actually do the PIC-E
programming.

It is, of course, experimental. Drop me a note if you find it useful.

73, John, W2FS

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

50. [picsig] Re: CCS Source Code

From: Jeff King <jeff@aerodata.net>
Date: Sat, 20 Feb 1999 17:33:39 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Cc: picsig@lists.tapr.org
Message-ID: <LYR6890-6831-1999.02.20-16.28.33--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

John Hansen wrote:

> At 05:11 PM 2/20/99 -0500, you wrote:
> >
> >Just got that. Looks slick. You didn't send the source for the programming
> >part of it however (the windows .exe code). What did you do that in and
> >will you be sending source for that as well?
> >
> >Thanks
> >
> >Jeff
> >
> >
>
> That was done in Visual C++. I'm not planning to release the source for it.

>
> John

OK. Well, maybe you can point me in the right direction then. What, if
any, example PIC programming source code examples did you use as
the basis for your programmer? Web site and/or ftp addresses would be
good. I've seen any number of them on the web, but I figured you must
have looked at all of them and can recommend some sources to start
with to save a little time.

Thanks!

Jeff

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

51. [picsig] Re: CCS Source Code

From: John Hansen <hansen@del.cs.fredonia.edu>
Date: Sat, 20 Feb 1999 21:10:26 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Cc: picsig@lists.tapr.org
Message-ID: <LYR6890-6864-1999.02.20-20.12.33--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 05:33 PM 2/20/99 -0500, Jeff King wrote:
>> That was done in Visual C++. I'm not planning to release the source for it.
>>
>> John
>
>OK. Well, maybe you can point me in the right direction then. What, if
>any, example PIC programming source code examples did you use as
>the basis for your programmer? Web site and/or ftp addresses would be
>good. I've seen any number of them on the web, but I figured you must
>have looked at all of them and can recommend some sources to start
>with to save a little time.
>
Oh, that's the part you are interested in. I may be able to help you with
that. Let me take a moment to tell you (and the group) what I've learned
about writing PIC programmers. I do have some other source code that may
help you. Here's the story. All of the serial port PIC programmers work
pretty much the same way. They use selected lines on the serial port, TXD
for the programmer voltage, for example, to provide the signals that are
required to program the chip. The timing of these signals is well
documented in the Microchip In Circuit Serial Programming Guide. The issue
is what technique do you use to toggle the appropriate lines of the serial
port. Most of the PIC programmers that I have seen do this by directly
writing to the serial port. This is sort of a no-no within Windows, though
it will work, especially if you create a DOS program that runs in a DOS
window (like PIX). However, if you try to run PIX under Windows NT, you'll
find its a no go, because NT just won't put up with these "rogue" calls to
ports.

So I thought I would try a different approach. I use WinAPI calls to
manipulate the serial lines. Now, I really don't think this is what these
calls were designed for, but it does work, at least with most computers. I
still don't understand why the AMD-based machines have a problem with it,
but they seem to. I used this approach in GPS-E-2, and I also used it in
another program called "pixie.exe", which is a command line programmer for
the "ludi-style" PIC programmers. I wrote this because I wanted to be able
to integrate the PIC-E development system with MPLAB. That is, MPLAB is
really designed to work with the PicStart Plus, but you can hit a key and
run a command line program from it. So I used this capability to allow me
to program the PIC-E directly from within MPLAB. I was kind of surprised
that I was unable to find a functional command line programmer that worked
with Ludi-style programmers. I looked for an awfully long time.

Anyway, Pixie may be of use to some of you are trying to do development
with all the wonderful features of MPLAB, but who want to do the
development right on the PIC-E board. It may or may not work with your
computer. Substituting a 1N914 diode for R1 may help (it did with mine).
I will upload Pixie to the upload directory this evening, and Jeff, I have
no problem including the source code for it.   So that may solve your
problem of finding some programming source to look at.

I would appreciate it if anyone who tries Pixie could report back to me the hardware and operating system they used and whether it worked for them or not. I'm still trying to understand why it works on some computers and not others. I have gotten it to work successfully on the following:

486DX2 - 50 (laptop) running Win95
75 MHz Pentium running Win95
200 MHz Pentium running Win98
450 MHz Pentium II (Xeon) running WinNT 4.0

An AMD K6 running WinNT 4.0 definitely won't work.

Thanks in advance,

John W2FS

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

52. [picsig] Re: GPS-E-2 Uploaded

From: "Byon Garrabrant" <byon@mail.com>
Date: Sat, 20 Feb 1999 19:44:59 -0800
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-6879-1999.02.20-21.48.45--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On 20 Feb 99, at 16:29, John Hansen wrote:

> My PIC-E program GPS-E-2.ZIP has been added to the picsig/software
> directory.

I have also uploaded my MIC-E like firmware to the ftp site. It is under the name pice090.zip (although it may be changed to gpse(3) in the future). It is functionally very similar to John's GPS-E-2, the major difference being that mine is written in assembly where John's is in C. I assemble with Microchip's free MPASM.EXE (available in DOS and Windows).

I have also taken the packet sending portion of the above code, and optimized and simplified it down as much as I could for a generic packet sending routines. Basically, you call packetStart to begin a UI packet, packetSend to send each byte of the data field, and packetEnd to complete. The routines deal with PTT, flags, NRZI, bitstuffing, and CRC, so you only need to send data. Your callsign and destination call, plus any digipeaters can be added to the table in the source. It is about as small as I think I can make it, and the packet routines take about 1/10 of the available PIC program space, so you still have lots for your own code. Also, it doesn't use interrupts (as pice090 does), so other timing critial code (like serial transmission) should not be affected. It is stored under the name packet.zip. Also, I have successfully written packet decoding code for the PIC-E, and am in the process of integrating it into packet.asm. Will let the group know when that version is available.

Please let me know if and how you use this software. Comment & Questions to byon@mail.com.

Byon

_____
 Byon Garrabrant N6BG byon@mail.com

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

53. [picsig] Office closed this week

From: "Steven R. Bible" <srbible@gate.net>
Date: Sun, 21 Feb 1999 13:54:50 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-6989-1999.02.21-12.53.34--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Due to a death in the Jones family, the TAPR office will be closed for the
week.

Greg Jones, WD5IVD
President TAPR

Greg Jones, WD5IVD   Austin, Texas
wd5ivd@tapr.org   http://www.tapr.org/~wd5ivd

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

54. [picsig] Are kits here?

From: James Jefferson <jjeffers@deskmedia.com>
Date: Sun, 21 Feb 1999 18:19:28 -0600
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-7039-1999.02.21-18.20.32--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Judging by the increased traffic, I would guess the kits have arrived?
Maybe mine will show up monday...

73's

-James Jefferson KB0THN
jjeffers@deskmedia.com
http://www.deskmedia.com/~jjeffers/

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

55. [picsig] Re: Are kits here?

From: "Steven R. Bible" <n7hpr@amsat.org>
Date: Sun, 21 Feb 1999 19:39:33 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-7050-1999.02.21-18.38.10--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 06:19 PM 2/21/99 -0600, you wrote:
>
>Judging by the increased traffic, I would guess the kits have arrived?
>Maybe mine will show up monday...

James,

Everything was in place for PIC-E kits to leave the TAPR Office starting on
Friday. I don't if they did. Now to complicate matters, there's a death
in the family and the TAPR Office will be closed this week.

Please hang in there. We've put a lot of information up on the FTP site
for you to read. You can start reading the PIC-E Manual. Next, printout
and study the source code for the application you are interested in.

The ftp URL is

   ftp://ftp.tapr.org/picsig/

look in the "docs" directory for documentation and "software" for several
software programs that will run on the PIC-E.

 - Steve
 (n7hpr@tapr.org)
 (n7hpr@amsat.org)

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

56. [picsig] Re: CCS Source Code

From: Jeff King <jeff@aerodata.net>
Date: Sun, 21 Feb 1999 20:35:13 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>

Message-ID: <LYR6890-7061-1999.02.21-19.29.26--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Saturday Feb 20th, John Hansen wrote:

> I will upload Pixie to the upload directory this evening, and Jeff, I have
> no problem including the source code for it. So that may solve your
> problem of finding some programming source to look at.

Thanks John, this sounds like what I was after. I've done some WIN95
"port programming" before (using embedded assembly) but its sounds
like your method is a little more "legal" and elegant to boot.

PIXIE is still in the upload directory however and it doesn't appear
things can be downloaded from this directory (although I can see it).
Hopefully it will be moved over soon.

Thanks and I'll let you know if the program works as soon as I snag it.

-Jeff wb8wka

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

57. [picsig] Where to download these files?

From: Walter Dunckel <wdunckel@best.com>
Date: Sun, 21 Feb 1999 16:51:27 -0800
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-7082-1999.02.21-20.40.05--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I am new to this group and have heard a lot about new programs for the
PIC-E, but where are these located?

Thanks,

Walter

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

58. [picsig] Re: Are kits here?

From: Jeff King <jeff@aerodata.net>
Date: Mon, 22 Feb 1999 17:51:54 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-7272-1999.02.22-16.46.06--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

"Steven R. Bible" wrote:

> Everything was in place for PIC-E kits to leave the TAPR Office starting on
> Friday. I don't if they did.

At least one did. I got mine today (Michigan) via priority mail postmarked
2/19/99.

-Jeff

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

59. [picsig] RE: where to get MX614P?

From: "Norberto G. Pennini" <ngpennini@arnet.com.ar>
Date: Tue, 23 Feb 1999 07:21:44 -0300
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-7355-1999.02.23-04.29.55--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hello Art, I have information of another chip identical to the MX614, this
is the FX614 from Consumer Microcircuits Limited.

I´m also seeking the MX-614 and/or FX-614 for make a packet modem with PIC
and/or ATMELmicrocontroller. Any information is welcome.

Regards.

Norberto - LU8DYF.

ngpennini@arnet.com.ar

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

60. [picsig] RE: where to get MX614P?

From: James Jefferson <jjeffers@deskmedia.com>
Date: Tue, 23 Feb 1999 07:11:51 -0600
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-7367-1999.02.23-07.13.13--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Just call up MX COMM. I'm working on designing something using an MX589 and
they were able to send samples within a month. If you aren't actively
designing something they might be hesitant about selling in single
quantities, but I don't imagine you would have too much trouble to get a
group order of 25.

Just a though....

-James Jefferson KB0THN
jjeffers@deskmedia.com
http://www.deskmedia.com/~jjeffers/

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

61. [picsig] RE: where to get MX614P?

From: John Hansen <hansen@fredonia.edu>
Date: Tue, 23 Feb 1999 08:42:10 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-7376-1999.02.23-07.41.54--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

This quote is a bit dated, but it should give you some leads in pursuing the
MX-614:
==========
Check out our line card at http://www.compdist.com/linecard.html

John,
Thank you for your interest in MXCom and Component Distributors, Inc.
 Above is the quote you requested. It does appear that the MX614P (dip
package) is still available. If you need further assistance please feel
free to contact our office in Virginia at 800-293-2080.

Best Regards,
Karen Jenkins
cdidc@compdist.com

QUOTEComponent Distributors, Inc.
4951 Andrea Ave
Annandale, VA 22003
Phone: (703) 764-9700
       (800) 293-2080
Fax:Email:(703)764-9704cdidc@compdist.com
http://www.compdist.com/

Quote Number: 90272
Quote Date: 5 / 7/98

Manufacturer
   Part Number   Quantity Price Delivery
MX COM
MX614P   1 - 24 $5.6000   stk-4wks
                       25 - 99 $5.0400   stk-4wks
                     100 - 499 $4.5300   stk-4wks

```
---
You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org
```

62. [picsig] GPS-E ROM 1007 > 985

```
From: Jeff King <jeff@aerodata.net>
Date: Wed, 24 Feb 1999 20:50:17 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-7633-1999.02.24-19.44.18--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain
```

```
I spent about 10-15 minutes messing with the GPS-E code and was able to
shrink it from 1007 bytes of ROM to 985 bytes. See comments
below. I'm using CCS PCM version 2.659 I'm sure a few more things
might be able to be done but ran out out time for tonight.

I was wondering if anyone could check this as I haven't built my
"stock" PIC-E yet. I'll upload the changes to the upload area as
well as the HEX file.

Thanks

Jeff wb8wka


/*********************************************************/
/*   Changes:  wb8wka   ROM size 1007 >
985                                     */
/*   2/24/99   Changed some if (!condition), if(condition)
to                         */
/*               if (!condition)
else                                                              */
/*               Removed (commented out) setup counter
statement                  */
/*********************************************************/



---
You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org
```

63. [picsig] Re: GPS-E ROM 1007 > 985

```
From: "Steven R. Bible" <n7hpr@amsat.org>
Date: Wed, 24 Feb 1999 21:00:19 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-7634-1999.02.24-19.58.55--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain
```

```
At 08:50 PM 2/24/99 -0500, you wrote:
>
>I spent about 10-15 minutes messing with the GPS-E code and was able to
>shrink it from 1007 bytes of ROM to 985 bytes. See comments
>below. I'm using CCS PCM version 2.659 I'm sure a few more things
>might be able to be done but ran out out time for tonight.
>
>I was wondering if anyone could check this as I haven't built my
>"stock" PIC-E yet. I'll upload the changes to the upload area as
>well as the HEX file.


Files gpsewka.zip and gpsewka.txt have been moved to the directory

  ftp://ftp.tapr.org/picsig/software/


Please remember, when uploadig a file include a short <filename>.txt file
to describe the contents of the <filename>.zip file and contributors name.
Jeff, I used you email at the *.txt file.

Thanks!


 - Steve
 (n7hpr@tapr.org)
 (n7hpr@amsat.org)


---
```

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64. [picsig] Re: GPS-E ROM 1007 > 985

From: Jeff King <jeff@aerodata.net>
Date: Wed, 24 Feb 1999 21:17:23 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-7635-1999.02.24-20.11.26--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Opppsss..... sorry Steve....

-Jeff

"Steven R. Bible" wrote:

> At 08:50 PM 2/24/99 -0500, you wrote:
> >
> >I spent about 10-15 minutes messing with the GPS-E code and was able to
> >shrink it from 1007 bytes of ROM to 985 bytes. See comments
> >below. I'm using CCS PCM version 2.659 I'm sure a few more things
> >might be able to be done but ran out out time for tonight.
> >
> >I was wondering if anyone could check this as I haven't built my
> >"stock" PIC-E yet. I'll upload the changes to the upload area as
> >well as the HEX file.
>
> Files gpsewka.zip and gpsewka.txt have been moved to the directory
>
>   ftp://ftp.tapr.org/picsig/software/
>
> Please remember, when uploadig a file include a short <filename>.txt file
> to describe the contents of the <filename>.zip file and contributors name.
> Jeff, I used you email at the *.txt file.
>
> Thanks!
>
> - Steve
> (n7hpr@tapr.org)
> (n7hpr@amsat.org)
>
> ---
> You are currently subscribed to picsig as: jeff@aerodata.net
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---
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65. [picsig] Re: GPS-E ROM 1007 > 985

From: Gary Sanders <gsanders@gte.net>
Date: Thu, 25 Feb 1999 00:10:43 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-7664-1999.02.24-23.12.10--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I took the modified hex file, then ran Gpse-2.exe to insert my
call and programmed the PIC. At the end of programming I got
an error message "Verify Failed". (I also tried it without
inserting my call, but still programming with the exe file.
Same end result.)

Went back to the original (John's) hex file, inserted my call,
programmed it and no error message.

There appears to be an anomaly in the new code.

This is with one of the 50 new TAPR boards.

Gary Sanders

Jeff King wrote:
>
> I spent about 10-15 minutes messing with the GPS-E code and was able to
> shrink it from 1007 bytes of ROM to 985 bytes. See comments
> below. I'm using CCS PCM version 2.659 I'm sure a few more things
> might be able to be done but ran out out time for tonight.

>
> I was wondering if anyone could check this as I haven't built my
> "stock" PIC-E yet. I'll upload the changes to the upload area as
> well as the HEX file.

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66. [picsig] Re: GPS-E ROM 1007 > 985

From: Jeff King <jeff@aerodata.net>
Date: Thu, 25 Feb 1999 12:29:27 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-7712-1999.02.25-11.23.29--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Gary Sanders wrote:

> I took the modified hex file, then ran Gpse-2.exe to insert my
> call and programmed the PIC. At the end of programming I got
> an error message "Verify Failed".

Not clear, you also tried to upload the hex file with gpse-2.exe?

> (I also tried it without
> inserting my call, but still programming with the exe file.
> Same end result.)

Again, with gpse-2.exe? Try it using the hex upload program,
I've never heard of something called "verify failed" and the
hex file *should* have uploaded just fine. Now, maybe gpse-2.exe
was upset that I modified the .hex file. Or maybe gpse-2.exe expects
the .hex code in a different format.....don't know.

> Went back to the original (John's) hex file, inserted my call,
> programmed it and no error message.
>
> There appears to be an anomaly in the new code.

In any case, it should load in the PIC-E, and I think your saying
it is not. It might ultimately fail, but it should load.

Thanks for trying it.

John, any comments?

-Jeff

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67. [picsig] Re: GPS-E ROM 1007 > 985

From: Gary Sanders <gsanders@gte.net>
Date: Thu, 25 Feb 1999 14:10:19 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-7726-1999.02.25-13.11.43--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Jeff King wrote:
>
> Gary Sanders wrote:
>
> > I took the modified hex file, then ran Gpse-2.exe to insert my
> > call and programmed the PIC. At the end of programming I got
> > an error message "Verify Failed".
>
> Not clear, you also tried to upload the hex file with gpse-2.exe?

Yes, I did. Gpse-2 has a built-in programming function.

>
> > (I also tried it without

> > inserting my call, but still programming with the exe file.
> > Same end result.)
>
> Again, with gpse-2.exe? Try it using the hex upload program,
> I've never heard of something called "verify failed" and the
> hex file *should* have uploaded just fine. Now, maybe gpse-2.exe
> was upset that I modified the .hex file. Or maybe gpse-2.exe expects
> the .hex code in a different format.....don't know.

Yes, I just now tried it using the stand alone programmer, and it
loads and seems to run just fine (as much as I can tell from watching
the PTT led - I haven't interfaced it to a radio yet).

However, as I said in my previous message, in my first attempt it failed
when I tried to program with the built-in programming function of
gpse-2.exe. I took the simple way out the first time, and didn't
honestly know there would be any difference in programming.

Gary

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68. [picsig] Re: GPS-E ROM 1007 > 985

From: Jeff King <jeff@aerodata.net>
Date: Thu, 25 Feb 1999 14:27:12 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-7728-1999.02.25-13.21.09--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Gary Sanders wrote:

> Yes, I just now tried it using the stand alone programmer, and it
> loads and seems to run just fine (as much as I can tell from watching
> the PTT led - I haven't interfaced it to a radio yet).

OK, so the code doesn't go out to lunch. Thanks for trying this. I was
afraid I had missed a occurrence of a get_timer or something.

> However, as I said in my previous message, in my first attempt it failed
> when I tried to program with the built-in programming function of
> gpse-2.exe. I took the simple way out the first time, and didn't
> honestly know there would be any difference in programming.

gpse-2.exe 'patches' the hex file with parameters then uploads it, to the
best of my knowledge at least. Apparently
it didn't like my hex file and/or things were not in the order it expects.

Hopefully John will chime in here later. John, Mark from CCS mentioned
you could also use the .sym file to locate were to patch the file instead of

doing it statically. Not tried it yet myself.

73

Jeff

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69. [picsig] Re: GPS-E ROM 1007 > 985

From: Steve Dimse K4HG <k4hg@tapr.org>
Date: Thu, 25 Feb 1999 14:33:09 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-7732-1999.02.25-13.34.38--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On 2/25/99 2:27 PM Jeff King (jeff@aerodata.net) wrote:

>gpse-2.exe 'patches' the hex file with parameters then uploads it, to the
>best of my knowledge at least. Apparently
>it didn't like my hex file and/or things were not in the order it expects.
>
>Hopefully John will chime in here later. John, Mark from CCS mentioned

>you could also use the .sym file to locate were to patch the file instead of
>
>doing it statically. Not tried it yet myself.
>
What John does is assure that the table gets placed in the same location
near the top of memory. You can change any of the rest of the code
without needing to worry about the config program. If you change the
meaning or location of any of the configuration

Programming of the Pic-E can be inconsistent. We all have had some
problems with certain combinations of programming software, serial ports,
and cables. There does not seem to be any specific pattern to the
problems, and we all have been able to easily find a combination that
consistently works. If you have a problem, the first thing to try is to
buy or make a short serial cable...this seems to cure most, if not all,
problems. If you have more than one computer, try it on different serial
ports. You can also try different PIC programming software versions,
several are up on the ftp site.

Steve K4HG

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70. [picsig] Re: GPS-E ROM 1007 > 985

From: Jeff King <jeff@aerodata.net>
Date: Thu, 25 Feb 1999 15:09:02 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-7737-1999.02.25-14.02.58--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Steve Dimse K4HG wrote:

> On 2/25/99 2:27 PM Jeff King (jeff@aerodata.net) wrote:
>
> >gpse-2.exe 'patches' the hex file with parameters then uploads it, to the
> >best of my knowledge at least. Apparently
> >it didn't like my hex file and/or things were not in the order it expects.
> >
> >Hopefully John will chime in here later. John, Mark from CCS mentioned
> >you could also use the .sym file to locate were to patch the file instead of
> >doing it statically. Not tried it yet myself.
> >
> What John does is assure that the table gets placed in the same location
> near the top of memory.

Yeah, thats what I meant by statically.

> You can change any of the rest of the code
> without needing to worry about the config program.

Did you try the change? I sent John's modifed source code also.
My point was to try and shrink the code, didn't yet add any
more functionality. I wanted to make sure there were no compatibility
problems with PIC-E/gpse-2.exe and since I hadn't gotten around
to building it yet, I posted it on here.

> If you change the
> meaning or location of any of the configuration
> Programming of the Pic-E can be inconsistent.

Didn't touch that. I assume your talking about the lookup

>
> ports. You can also try different PIC programming software versions,
> several are up on the ftp site.

Gary just had a problem with the gpse2.exe programmer, the stock programmer
took the hex file fine. I don't think it is a cable isssue.

-Jeff

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71. [picsig] Re: GPS-E ROM 1007 > 985

From: Steve Dimse K4HG <k4hg@tapr.org>
Date: Thu, 25 Feb 1999 15:13:57 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-7740-1999.02.25-14.15.28--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On 2/25/99 3:09 PM Jeff King (jeff@aerodata.net) wrote:

>Did you try the change? I sent John's modifed source code also.
>My point was to try and shrink the code, didn't yet add any
>more functionality. I wanted to make sure there were no compatibility
>problems with PIC-E/gpse-2.exe and since I hadn't gotten around
>to building it yet, I posted it on here.
>
No, I did not load the new file, I am in the middle of working 11 shifts
of 12 on 12 off, very little time to do anything else...

>> If you change the
>> meaning or location of any of the configuration
>> Programming of the Pic-E can be inconsistent.
>
I think you lost some of the text in the middle here, the first two lines
were not at all connected with the third...

>Didn't touch that. I assume your talking about the lookup
>
I was just pointing out that John had assured the locations will not
change in the code, so that using the symbol files to look up the
position was not needed.
>>
>> ports. You can also try different PIC programming software versions,
>> several are up on the ftp site.
>
>Gary just had a problem with the gpse2.exe programmer, the stock programmer
>took the hex file fine. I don't think it is a cable isssue.
>
He had a verify error, that meant that the chip did not read back
correctly after being programmed, so the problem could well have been
solved with a cable. This error had nothing to do with the fact that he
was using your modified code, any kind of data should be able to be
programmed without getting a verify error. That it happened on your code
was just a coincidence...

Steve K4HG

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72. [picsig] Re: GPS-E ROM 1007 > 985

From: Gary Sanders <gsanders@gte.net>
Date: Thu, 25 Feb 1999 20:57:05 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-7786-1999.02.25-20.00.30--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Steve Dimse K4HG wrote:
>
> On 2/25/99 3:09 PM Jeff King (jeff@aerodata.net) wrote:
>

> >
> >Gary just had a problem with the gpse2.exe programmer, the stock programmer
> >took the hex file fine. I don't think it is a cable isssue.
> >
> He had a verify error, that meant that the chip did not read back
> correctly after being programmed, so the problem could well have been
> solved with a cable. This error had nothing to do with the fact that he
> was using your modified code, any kind of data should be able to be
> programmed without getting a verify error. That it happened on your code
> was just a coincidence...
>

Obviously, I'm new to PIC usage, and will defer to the wisdom of
the group.

However, the symptom I described is consistent and repeatable.

If I attempt to load Jeff's hex file with gpse-2.exe, it gives
a verify error. If I load the original distribution hex file
with gpse-2.exe, it programs fine. Either file will load with
Picprog.exe. No other cables (or anything else) was changed,
other than selecting a different hex file, which resides in a
different subdirectory. And the file loads were tried
multiple times with the same result each time.

We really need another person to attempt to load the file to
get a handle on what's going on.

Also, I'll try a shorter serial cable. I use DB-9 to RJ45
adapters (same connectors that are used for the mic jacks
on the kit) and 8 conductor flat cable for serial cabling,
because it's convenient to make cables to whatever length I
happen to need, and the particular one I'm using now is about
8 feet long (plus a serial switch box and another shielded 6
foot long cable). Not exactly optimum! But when I first tried
it with gpse-2, it worked every time, so I saw no need to fix
what didn't appear to be broken.

Gary

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73. [picsig] Re: GPS-E ROM 1007 > 985

From: Gary Sanders <gsanders@gte.net>
Date: Fri, 26 Feb 1999 00:52:55 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-7812-1999.02.25-23.54.21--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I just tried a short cable, and it did not change the symptom.

But I must admit, I did one thing wrong on the first round of
testing. I reported a verify error, which is still the case.
However, I also reported that after loading with gpse-2.exe
that the PIC-E did not run. That is not the case. It appears to
run fine, but the program function of gpse-2.exe reports a
verify error.

So Jeff, your modifications appear to run using either
programming method - gpse-2 reports verify errors, and the
dedicated programmer doesn't.

The reason I said it did not run is I suspect I forgot to
connect the GPS cable to the PIC-E, and apparently it won't
raise PTT unless it sees a valid GPS sentence.

Unfortunately, that's what happens when you deal with newbies!
(I won't make that mistake again!)

Gary

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74. [picsig] Re: GPS-E ROM 1007 > 985

From: "Graeme Zimmer" <gzimmer@vic.bigpond.net.au>
Date: Fri, 26 Feb 1999 18:40:58 +1100
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-7830-1999.02.26-01.46.51--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi,

>> I took the modified hex file, then ran Gpse-2.exe to insert my
>> call and programmed the PIC. At the end of programming I got
>> an error message "Verify Failed".

This simply means that the PIC didn't program properly.

either it wasn't erased sufficiently.......

or it was protected..... you can't Verify protected PICs......

or at least you can't verify them using the uploaded code.

73's ..... Zim VK3GJZ

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75. [picsig] Re: picsig digest: February 25, 1999

From: Mark Grennan <mgrennan@mail.fleming.com>
Date: Fri, 26 Feb 1999 13:33:49 -0600
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-7930-1999.02.26-13.35.12--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Wow, everyone is ahead of me.

I'm still futsing with Linux. I think I have Linux code that will program the Pic-E.
I know I have an assembler for Linux. I'm working on the C compiler. For details see
http://www.grennan.com/picprog/.

Is anyone else using Linux for their development platform? I could upload the code to
the TAPR ftp site.

KD5AMB

76. [picsig] More memory savings? (lookup vs EEPROM)

From: Jeff King <jeff@aerodata.net>
Date: Fri, 26 Feb 1999 17:33:53 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-7950-1999.02.26-16.27.45--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I noticed on the code for the GPS-E that no use was made of the
CCS command READ_EEPROM and WRITE_EEPROM. The
16F84 has 64 bytes of EEPROM memory which is available. I
don't think the memory space is available to the programming
algorithm but would be available at run time. The programming
for the USER PARAMETERS would then need to be done
via the GPS port, in much the same manner as Bob Clements MIM
module is now done. The advantage, besides possible memory
advantages, is the FLASH code could be protected and the
user data would be field programmable.

Was just throwing this out as food for thought for those that are
trying to put 20lbs of code into a 5lb PIC, so to speak.

-Jeff

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77. [picsig] Re: More memory savings? (lookup vs EEPROM)

From: Steve Dimse K4HG <k4hg@tapr.org>
Date: Fri, 26 Feb 1999 18:16:12 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-7963-1999.02.26-17.17.55--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On 2/26/99 5:33 PM Jeff King (jeff@aerodata.net) wrote:

>I noticed on the code for the GPS-E that no use was made of the
>CCS command READ_EEPROM and WRITE_EEPROM. The
>16F84 has 64 bytes of EEPROM memory which is available. I
>*don't* think the memory space is available to the programming
>algorithm but would be available at run time. The programming
>for the USER PARAMETERS would then need to be done
>via the GPS port, in much the same manner as Bob Clements MIM
>module is now done. The advantage, besides possible memory
>advantages, is the FLASH code could be protected and the
>user data would be field programmable.
>

This was part of the design tradoffs we made early on. Yes, you can load
user parameters into EEPROM. However, with only 64 bytes, there is only
room to do a single set of paramters, unless you use tokens for paths and
limit the comments to a few characters. We wanted the two full sets of
paramters, so the decision not to use the EEPROM sort of made itself. As
to code space, you do save space by not making the paramters a table, but
on the other hand you must write a parser to accept the values and store
them, and add code to expand the tokens. Everything is a tradoff.

You might also want to consider that the EEPROM can be externally
programmed, avoiding the parser. You'd have to write Windows code to do
this, but it would free up a lot of codespace.

If you need space, don't be afraid of using assembler. The code is easier
to optimize and more compact. There is a little bit of a learning curve,
it took a week or so before I felt comfortable, but it was worth it. My
Wx-PIC project, converting serial data from a U-2000 to serial data for a
TNC, took 1022 bytes in CCS C (after much optimization to get it to fit).
Code with the same functionality in assembler for the Pic-E was under 500
bytes, with no attempt at optimization...quite a difference.

This project is designed to be open source, so there is no reason to use
the protect fuse. Under the terms of the Pic-E source code license, if
you use any of the code we have made available, you must also make your
source code available publicly. If the source code is available, there
isn't much need to protect the object code!

The Pic-E is field programmable now, it is just John integrates the data
into the program code and flashes it. The end result to the user is the
same...he runs the Windows program, edits his parameters, and sends them
to the device.

>Was just throwing this out as food for thought for those that are
>trying to put 20lbs of code into a 5lb PIC, so to speak.
>
The Mic-E and the MIM use the 16C73 PIC and an external EEPROM chip, with
4K of memory verses the 1K in the 16F84, and is one-time programmable, so
the tradeoffs are different. The 4:1 ratio is the same as your 20:5
comment, so it was quite appropriate!

Steve K4HG

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78. [picsig] Re: More memory savings? (lookup vs EEPROM)

From: Jeff King <jeff@aerodata.net>
Date: Fri, 26 Feb 1999 19:19:30 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-7968-1999.02.26-18.13.20--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Steve Dimse K4HG wrote:

> >Was just throwing this out as food for thought for those that are
> >trying to put 20lbs of code into a 5lb PIC, so to speak.
> >
> The Mic-E and the MIM use the 16C73 PIC and an external EEPROM chip, with
> 4K of memory verses the 1K in the 16F84, and is one-time programmable, so
> the tradeoffs are different. The 4:1 ratio is the same as your 20:5
> comment, so it was quite appropriate!
>
> Steve K4HG

Well, in fairness the MIM is doing the modem tones by dithering a a PWM
(it doesn't require a modem chip) is reading A/D's and he has a more
extensive
parser then in the PIC-E MIC-E clone. He also has two different modes in
the object code, both MIM mode and MIC-E mode. Also he is reading a large
array of front panel switches and pots. Not withstanding the
above, yes it is impressive that you could make such a savings with the
PIC-E.

-Jeff

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79. [picsig] Re: More memory savings? (lookup vs EEPROM)

From: Steve Dimse K4HG <k4hg@tapr.org>
Date: Fri, 26 Feb 1999 19:18:08 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-7969-1999.02.26-18.19.58--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On 2/26/99 7:19 PM Jeff King (jeff@aerodata.net) wrote:

>Well, in fairness the MIM is doing the modem tones by dithering a a PWM
>(it doesn't require a modem chip) is reading A/D's and he has a more
>extensive
>parser then in the PIC-E MIC-E clone. He also has two different modes in
>the object code, both MIM mode and MIC-E mode. Also he is reading a large
>array of front panel switches and pots. Not withstanding the
>above, yes it is impressive that you could make such a savings with the
>PIC-E.
>
The AX-25 generation uses surprisingly little code. Also surprisingly,
the other methods that were explored for tone generation, resistor ladder
and I2C tone chip, used similar amounts of code. I suspect the PWM mode
does not require much more code either.

My comment wasn't meant to compare the Pic-E to the Mic-E directly, only
to point out that when you have 4K of program space (and the other
features of the 16C73, like the UART), the tradeoffs you can make change.

Steve K4HG

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80. [picsig] Re: More memory savings? (lookup vs EEPROM)

From: Jeff King <jeff@aerodata.net>
Date: Fri, 26 Feb 1999 19:49:07 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-7970-1999.02.26-18.42.56--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Steve Dimse K4HG wrote:

> You might also want to consider that the EEPROM can be externally
> programmed, avoiding the parser. You'd have to write Windows code to do
> this, but it would free up a lot of codespace.

I didn't realize this. So your saying you would use part of FLASH for
lookup, and
part of the EEPROM? Would save 64 bytes of code space that way I imagine.

> If you need space, don't be afraid of using assembler. The code is easier
> to optimize and more compact. There is a little bit of a learning curve,

If I don't have to use assembler, I don't. I think I programmed at least 10
different embedded chips this last year so far, and I always try to do it in
'C' if possible. I will say the PIC is the least well suited for 'C' of any
of them
I commonly use. I use 'C' because it is faster (in terms of my development
time) then assembler. The 16F84 only has 1K of Flash, but most PIC
parts have members in the 2K range as well, typically for only about .10-.20
more for the part. The PIC16F628 might be a good 2K upgrade part
for the PIC-E when it becomes available. Its a flash part with the same
pinout of the 16F84 with 2K of flash, 128byte of E2, 224 bytes of RAM,
a real UART/SCI, 10bit PWM as well as a 16 bit timer, and two
comparators in it. It appears to be a hardware drop-in replacement for the
16F84 also.

> This project is designed to be open source, so there is no reason to use
> the protect fuse.

Protect fuse has nothing to do with open source. The protect fuse stops one
from modify the chip (or reading it). Thats it. All that is on the chip is
machine
code anyways, no comments, just the contents of the HEX file. So its not

source. So one would not be in violation of any type of agreement by doing
this assuming you made the source available.

My comment had to do with making something someone could use and
reprogram with nothing more then a terminal program. Having the protect
fuse set in this situation would prevent them from changing the function of
the chip, which might be to a end users advantage. The protect fuse would
not stop access to the EEPROM part of the memory, just the FLASH.
It also would change your flash chip into a OTP. Not a good idea for
most experimenters but just something I tossed out. Other then that, I
agree there is not much of a reason to use the protect bit unless you like
$10 OTP's!

-Jeff

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81. [picsig] Re: More memory savings? (lookup vs EEPROM)

From: Steve Dimse K4HG <k4hg@tapr.org>
Date: Fri, 26 Feb 1999 20:37:46 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-7974-1999.02.26-19.39.49--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On 2/26/99 7:49 PM Jeff King (jeff@aerodata.net) wrote:

>Steve Dimse K4HG wrote:
>
>> You might also want to consider that the EEPROM can be externally
>> programmed, avoiding the parser. You'd have to write Windows code to do
>> this, but it would free up a lot of codespace.
>
>I didn't realize this. So your saying you would use part of FLASH for
>lookup, and
>part of the EEPROM? Would save 64 bytes of code space that way I imagine.
>
Well, it'd be a bit less, because you would need to add the code to
access the EEPROM data, but that would only be a few bytes.

>more for the part. The PIC16F628 might be a good 2K upgrade part
>for the PIC-E when it becomes available. Its a flash part with the same
>pinout of the 16F84 with 2K of flash, 128byte of E2, 224 bytes of RAM,
>a real UART/SCI, 10bit PWM as well as a 16 bit timer, and two
>comparators in it. It appears to be a hardware drop-in replacement for the
>16F84 also.
>
There are a whole bunch of new flash memory chips coming "soon" from
MicroChip. I'm not sure the F628 is drop in for the F84. The press
release on the web site states this has an internal 4MHz oscillator,
which makes me think the pins will be different. If you found a data
sheet on these please direct me to it, all I can find are the press
releases. Also, Microchip seems to have rather long lead times between
announcement and release. For example, the 16F87x series was announced
last spring, but so far only the 16F877 is available, and only as
engineering samples.

I find the 16F87x interesting, they have AD converters, and are drop in
compatible with the 16C7x series. This latter quality means you can start
working with UV erasable chips now and drop in the flash ones when they
are available.

>> This project is designed to be open source, so there is no reason to use
>> the protect fuse.
>
>Protect fuse has nothing to do with open source. The protect fuse stops one
>from modify the chip (or reading it). Thats it. All that is on the chip is
>machine
>code anyways, no comments, just the contents of the HEX file. So its not
>source. So one would not be in violation of any type of agreement by doing
>this assuming you made the source available.
>
Yes, it would be legal, but what I said was there was no reason. If the
source code is available, then what reason would someone have to protect
the object code?

>My comment had to do with making something someone could use and
>reprogram with nothing more then a terminal program. Having the protect

I've never used the MIM, but the Mic-E requires a special program to
program it, it cannot be done from a terminal program. I had to agree to
non-disclosure of the protocol so I could write the Mac programmer. So to
a user, the process of programming the Pic-E with John's program is just
the same as for the Mic-E...except that it is easier to use, because it
is runs under Windows rather than DOS.

>fuse set in this situation would prevent them from changing the function of
>the chip, which might be to a end users advantage. The protect fuse would
>not stop access to the EEPROM part of the memory, just the FLASH.
>It also would change your flash chip into a OTP. Not a good idea for
>most experimenters but just something I tossed out. Other then that, I
>agree there is not much of a reason to use the protect bit unless you like
>$10 OTP's!
>
Is this true? I know that the UV erasables can't have the protect bit set
without turning the chip into OTP. When you order them from DigiKey they
put a big orange warning sticker on the bag. They don't put the sticker
on F84's. I haven't looked into the situation any deeper though, so you
could be right.

Steve K4HG

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82. [picsig] Re: More memory savings? (lookup vs EEPROM)

From: Jeff King <jeff@aerodata.net>
Date: Fri, 26 Feb 1999 21:40:46 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-7982-1999.02.26-20.34.37--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Steve Dimse K4HG wrote:

>
>
> >more for the part. The PIC16F628 might be a good 2K upgrade part
> >
> There are a whole bunch of new flash memory chips coming "soon" from
> MicroChip.

Yes, they are (still) playing catchup to Atmel.

> I'm not sure the F628 is drop in for the F84. The press
> release on the web site states this has an internal 4MHz oscillator,
> which makes me think the pins will be different.

Yes and no. It has the option of a external oscillator, OR the internal
oscillator can be used (a 4mhz RC) which frees up two more pins
for I/O. The 12C50x series are like this and I have used them before.
Also the new 16C505 (a .90 part) is also like this.

> If you found a data
> sheet on these please direct me to it, all I can find are the press
> releases.

I just got the 1Q99 line card. I'll be talking to my rep next week and
I'll ask him.

> Also, Microchip seems to have rather long lead times between
> announcement and release. For example, the 16F87x series was announced
> last spring, but so far only the 16F877 is available, and only as
> engineering samples.

Yeap, the whole flash "conflict" between Atmel and MicroChip caused
MicroChip to react by making vaporware announcements. Normally
they are a bit more realistic.

>
> Yes, it would be legal, but what I said was there was no reason. If the

> source code is available, then what reason would someone have to protect
> the object code?

So they wouldn't inadvertently program over something they don't want to
erase. Not a viable experimenter scenario but for some remote PIC and/or
a PIC that only a end user will see, might? make some sense.

> >most experimenters but just something I tossed out. Other then that, I
> >agree there is not much of a reason to use the protect bit unless you like
> >$10 OTP's!
> >
> Is this true?

Yeap, although I never tried it myself on the flash part. But the 16C84
was a real big target of the TV pirates in Europe and MicroSoft spent
some real time making the new 16F84 "crack proof". So I strongly
suspect if you set that, your done.

> I know that the UV erasables can't have the protect bit set
> without turning the chip into OTP.

Yeap, and I have |-(tried this myself on a UV part..... Another interesting
story is the pirates were using a UV laser to erase the protection bit/config
area of the TV decoder chip (a 16C54) to get around the protection on
the UV part. So what microchip did was to mask a opaque shield over
the config/fuse area so that UV light couldn't reset it. You used to be
able to erase the UV parts and to recover them if you inadvertently set
the protection fuse. No more.

> When you order them from DigiKey they
> put a big orange warning sticker on the bag. They don't put the sticker
> on F84's. I haven't looked into the situation any deeper though, so you
> could be right.

I buy my MicroChip parts from FAI as they give me better pricing then
DigiKey. Never seen a warning sticker although I mostly buy OTP's

You could always test it to see if you can convert your F84 to a OTP ;-)...

-Jeff

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83. [picsig] Re: More memory savings? (lookup vs EEPROM)

From: Steve Dimse K4HG <k4hg@tapr.org>
Date: Fri, 26 Feb 1999 22:03:59 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-7983-1999.02.26-21.06.15--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On 2/26/99 9:40 PM Jeff King (jeff@aerodata.net) wrote:

>> I'm not sure the F628 is drop in for the F84. The press
>> release on the web site states this has an internal 4MHz oscillator,
>> which makes me think the pins will be different.
>
>Yes and no. It has the option of a external oscillator, OR the internal
>oscillator can be used (a 4mhz RC) which frees up two more pins
>for I/O. The 12C50x series are like this and I have used them before.
>Also the new 16C505 (a .90 part) is also like this.
>
OK, what about the clock speed, it says the oscillator is 4 MHz. Can it
run 10MHz with an external clock, or is there a 10 MHz version planned?

Steve K4HG

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84. [picsig] Re: More memory savings? (lookup vs EEPROM)

From: Jeff King <jeff@aerodata.net>
Date: Fri, 26 Feb 1999 22:26:48 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>

Message-ID: <LYR6890-7985-1999.02.26-21.20.42--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Steve Dimse K4HG wrote:

> On 2/26/99 9:40 PM Jeff King (jeff@aerodata.net) wrote:
>
> >> I'm not sure the F628 is drop in for the F84. The press
> >> release on the web site states this has an internal 4MHz oscillator,
> >> which makes me think the pins will be different.
> > >
> > >Yes and no. It has the option of a external oscillator, OR the internal
> > >oscillator can be used (a 4mhz RC) which frees up two more pins
> > >for I/O. The 12C50x series are like this and I have used them before.
> > >Also the new 16C505 (a .90 part) is also like this.
> > >
> > OK, what about the clock speed, it says the oscillator is 4 MHz. Can it
> > run 10MHz with an external clock, or is there a 10 MHz version planned?
> >

On which one? The 16F628 will go to 20mhz with a external osc, the
16C505 will go to 20mhz with a external osc, and the 12C50x parts
will go to 4mhz, ext or int. All parts the above parts have a 4mhz internal
oscillator built in.

The internal oscillator on these parts is RC, but they have oscillator
offset byte you can read that tells you how close the oscillator is really
to
the 4mhz (useful for timing routines). Now, the thing you need to be aware
of is always read that value before you erase the part as the value will be
erased on a UV type part.

The 16F628 was recently moved over to the "current products" from "future
products" on the line card. So possibly the vapor is starting to condense on

this part..... I'll try to find out as I have a use for it.

-Jeff

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85. [picsig] Re: More memory savings? (lookup vs EEPROM)

From: John Hansen <hansen@del.cs.fredonia.edu>
Date: Sat, 27 Feb 1999 21:34:17 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-8101-1999.02.27-20.48.29--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 09:40 PM 2/26/99 -0500, you wrote:
>
>> >most experimenters but just something I tossed out. Other then that, I
>> >agree there is not much of a reason to use the protect bit unless you like
>> >$10 OTP's!
>> >
>> Is this true?
>
>Yeap, although I never tried it myself on the flash part. But the 16C84
>was a real big target of the TV pirates in Europe and MicroSoft spent
>some real time making the new 16F84 "crack proof". So I strongly
>suspect if you set that, your done.
>

Sorry, I've been in Washington the last several days doing consulting and
have missed most of this thread. It is, however, simply not that case that
setting the code protect bits turns a flash part into a OTP. If you do
code protect on an F84, you can't read it anymore, and you can't reprogram
it until you erase it. But if you do erase it, you have the same part you
got from the factory and you can then proceed to reprogram it. I know this
is the case, because I've done it.

John, W2FS

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86. [picsig] Re: More memory savings? (lookup vs EEPROM)

From: Jeff King <jeff@aerodata.net>
Date: Sat, 27 Feb 1999 22:09:51 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-8106-1999.02.27-21.03.34--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

John Hansen wrote:

> it until you erase it. But if you do erase it, you have the same part you
> got from the factory and you can then proceed to reprogram it. I know this
> is the case, because I've done it.

I stand corrected.

Getting back to the orginal thread, do you have any comments on the problem
Gary Sanders reported when trying to use GPSE-2.exe to try and upload
a modified .hex file?

-Jeff

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87. [picsig] Re: More memory savings? (lookup vs EEPROM)

From: "Byon Garrabrant" <byon@mail.com>
Date: Sat, 27 Feb 1999 21:45:02 -0800
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-8118-1999.02.27-23.49.11--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On 27 Feb 99, at 22:09, Jeff King wrote:

> John Hansen wrote:
>
> > it until you erase it. But if you do erase it, you have the same part
> > you got from the factory and you can then proceed to reprogram it. I
> > know this is the case, because I've done it.
>
> I stand corrected.

You can clear the CP in a flash part (F84), by erasing. You cannot
reprogram a CPed chip until you erase it first. (You can reprogram
a non-CPed chip w/o erasing) Also setting the CP does a good job
of locking you out of the chip. I've had several situations where I
could not reprogram an 84, because it happened to be locked, and
my programming software did not erase by default.

However, with the non-flash, non-OTP, UV eraseable PICs, setting
the CP bit locks it, and a normal UV erase will not get it back! So,
if you are using UV eraseable PIC, Don't set the CP bit.

(FWIW, I've heard rumors that if you UV erase for many hours
and/or bake them in an oven.... You can clear the CP bit. :)

Byon

_____
 Byon Garrabrant N6BG byon@mail.com

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88. [picsig] Re: More memory savings? (lookup vs EEPROM)

From: Jeff King <jeff@aerodata.net>
Date: Sun, 28 Feb 1999 14:36:45 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-8185-1999.02.28-13.30.23--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Byon Garrabrant wrote:

> (FWIW, I've heard rumors that if you UV erase for many hours

Heard the same thing but never worked for me, left one that I messed
up on my eraser for two days solid and never cleared it..... but it

did manage to fade all the part numbers on the chip!

-Jeff

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89. [picsig] C vs. ASM

From: eric.r.cook@exgate.tek.com
Date: Sun, 28 Feb 1999 19:27:27 -0800
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-8258-1999.02.28-21.29.03--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Greetings,

I just got my kit on Friday, but won't have time to build it 'till next
week. Anyway, I've been looking over the discussion about space saving,
etc. and something occurred to me.

Wouldn't it make the most sense to code the low level routines in assembler
and make them callable from C? That way we'd have the best of both worlds
... optimized routines that do most of the work, and the ability to code all
the cool functionality in a high level language.

Just my two cents.

Eric Cook, KC7RYP
Portland, OR

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90. [picsig] Kit assembly notes

From: James Jefferson <jjeffers@deskmedia.com>
Date: Sun, 28 Feb 1999 21:46:51 -0600
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-8260-1999.02.28-21.48.26--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hello everyone - I built my kit on friday, here are the notes / comments:

My kit didn't come with a 1N34 diode, however it came with what is labeled
as 1499. The diode is large and is encapsulated in clear glass. Is this a
suitable subsitute? (With thise diode or an 1N4148 I'm not able to get the
PTT working right. The LED lights but the PTT line is not brought to
ground. Any hints?)

The trimpot installation should come after the little components
(specificaly headers and capacitors) are already installed. Once the
trimpot is down then the board can be set down properly.

The transistor mounting legend is backwards compared to what I've ever
seen. Simply flipping the pads over the X-axis would be a major improvement
for the next board run.

The negative pad of B1 is floating. It is connected to P3 (power jack), but
at least with the jack TAPR sent me, it never connects to ground. Not to
useful =) At least it is easy to fix a new board revision!

The power jack's (P3) center conductor is larger then what I have around
the shack. It is just person prefence, but I ended up desoldering the beast
and putting in something more common.

I would be willing to write a section on programming the pic under Linux. I
uploaded a very simple, non-interactive, PIC16f84 progammer to the
incomming dirrectory, but it has disappeared now. I think about 3 more
paragraphs in the manual would be suitable for covering it.

(two days later)

I was able to spend quite a few hours today working on some software. I
have all of the UI frames working just fine. John Hansen's code is fairly
easy to use as long you pay close attention to the defines in gpse.h. After
a few unsuccessful starts I was able to get the MX614 behaving properly. I

left the datasheet in my other pants =) so I was trying to remember the
timing spec off the top of my head. Not too fun for a while.

John: My latest version of CCS 'PCM' still doesn't have the timming right.
delay_us() still needs to be at least 850 - 865 in order to work.

-James Jefferson KB0THN
jjeffers@deskmedia.com
http://www.deskmedia.com/~jjeffers/

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91. [picsig] Re: Kit assembly notes

From: John Hansen <hansen@del.cs.fredonia.edu>
Date: Sun, 28 Feb 1999 23:00:38 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-8262-1999.02.28-22.03.13--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 09:46 PM 2/28/99 -0600, you wrote:
>
>Hello everyone - I built my kit on friday, here are the notes / comments:
>
>My kit didn't come with a 1N34 diode, however it came with what is labeled
>as 1499. The diode is large and is encapsulated in clear glass. Is this a
>suitable subsitute? (With thise diode or an 1N4148 I'm not able to get the
>PTT working right. The LED lights but the PTT line is not brought to
>ground. Any hints?)
>
Did you put Jumper JP3 on? This is necessary for most mobile radio
installations.   I think removing the jumper is used in the case of HT's.
Generally with HT's it doesn't go fully to ground.
>

>The negative pad of B1 is floating. It is connected to P3 (power jack), but
>at least with the jack TAPR sent me, it never connects to ground. Not to
>useful =) At least it is easy to fix a new board revision!
>

That's not the case on mine. This may be related to your replacing the
power jack, since this ground connection is made through that jack. I
believe the object here is to use a jack that disconnects the battery when
a plug is inserted in the DC jack. If you replaced the jack with a
different one, it may not be the "switched" type.

>The power jack's (P3) center conductor is larger then what I have around
>the shack. It is just person prefence, but I ended up desoldering the beast
>and putting in something more common.

I agree. I think TAPR may have had some of these in inventory and so
decided to use them. They were kind enough to include a plug, that fits,
however.

>
>I would be willing to write a section on programming the pic under Linux. I
>uploaded a very simple, non-interactive, PIC16f84 progammer to the
>incomming dirrectory, but it has disappeared now. I think about 3 more
>paragraphs in the manual would be suitable for covering it.

Go for it... Sounds great!

>>
>John: My latest version of CCS 'PCM' still doesn't have the timming right.
>delay_us() still needs to be at least 850 - 865 in order to work.

Thanks for the info. I bought an upgrade to the latest version, but had
not used it yet because I was concerned about whether I would have to
rewrite the timing loops on this. I guess I shouldn't worry about it.

73, John, W2FS

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92. [picsig] Re: More memory savings? (lookup vs EEPROM)

From: John Hansen <hansen@del.cs.fredonia.edu>
Date: Sun, 28 Feb 1999 23:05:42 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-8263-1999.02.28-22.08.19--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 10:09 PM 2/27/99 -0500, you wrote:
>
>Getting back to the orginal thread, do you have any comments on the problem
>Gary Sanders reported when trying to use GPSE-2.exe to try and upload
>a modified .hex file?
>
>-Jeff

I really don't know. We've been trying to pin down why this sometimes
programs and why it doesn't and I'm still a bit mystified. I would have
thought that you should be able to load any old hex values into the chip
(even ones that didn't make any sense), yet I've seen this behavior with
serial port programmers on occasion before.   One thing to try is to reboot
the computer and load the new code before you do anything else that
accesses the serial port. Another thing to try is erasing the chip before
reprogramming it. If you are attempting to evaluate whether the code is
working or not, the "gold standard" would be to use a PicStart or a
Parallel port "tait" programmer. These seem to work pretty much all the
time on all computers (as long as the operating system isn't NT). Then
once you know the code is good, you can tackle the programmer problem. I
assume we will all learn more about this as we go along.

73, John W2FS

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93. [picsig] Re: C vs. ASM

From: Steve Dimse K4HG <k4hg@tapr.org>
Date: Sun, 28 Feb 1999 23:14:51 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-8264-1999.02.28-22.16.56--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On 2/28/99 10:27 PM eric.r.cook@exgate.tek.com
(eric.r.cook@exgate.tek.com) wrote:

>I just got my kit on Friday, but won't have time to build it 'till next
>week. Anyway, I've been looking over the discussion about space saving,
>etc. and something occurred to me.
>
>Wouldn't it make the most sense to code the low level routines in assembler
>and make them callable from C? That way we'd have the best of both worlds
>... optimized routines that do most of the work, and the ability to code all
>the cool functionality in a high level language.
>
If you look at John's code you'll see he does just that. Some things,
like timing routines, require either known delays or the fastest possible
execution, and so are coded in assembler.

However, there are problems. Mixing the two requires that you understand
the peculiarities of your particular compiler. For example, CCS C passes
and returns parameters in RAM registers, rather than the w register. This
is quite inefficient if you are working on a single 8 bit value (of
course it is necessary for 16 bit values or for more than one param). So
a common segment of compiled code is load a parameter into w, write it to
the parameter register, call the procedure, load it from the parameter
register. By sticking with assembler, you cut the code in half. There are
lots of other little shortcuts you can pull off when you work directly in
assembler.

Once I get in a mindset of assembler, it is easier for me to do the whole
thing in assembler. This is a personal preference, your mileage may vary.

Given unlimited program and register storage, I'd pick C almost every
time. In a cramped chip like the 16F84, I'll take assembler. John
obviously preferred to mix the two. That's what's fun about these chips,
there is so much room for individuality!

Steve K4HG

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94. [picsig] Re: Kit assembly notes

From: "Steven R. Bible" <n7hpr@amsat.org>
Date: Sun, 28 Feb 1999 23:43:59 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-8266-1999.02.28-22.42.42--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 09:46 PM 2/28/99 -0600, you wrote:
>
>Hello everyone - I built my kit on friday, here are the notes / comments:
>
>My kit didn't come with a 1N34 diode, however it came with what is labeled
>as 1499. The diode is large and is encapsulated in clear glass. Is this a
>suitable subsitute? (With thise diode or an 1N4148 I'm not able to get the
>PTT working right. The LED lights but the PTT line is not brought to
>ground. Any hints?)

Hmmm. Need to research this. The 1N34 is a germanium diode. The point of using this type of diode, say over a silicon 1n4148, is that the voltage drop is less.

>The trimpot installation should come after the little components
>(specificaly headers and capacitors) are already installed. Once the
>trimpot is down then the board can be set down properly.

Thanks for the suggestion. We can rearrange the assembly steps.

>The transistor mounting legend is backwards compared to what I've ever
>seen. Simply flipping the pads over the X-axis would be a major improvement
>for the next board run.

I think this is the CAD program idosynchrocy.

>The negative pad of B1 is floating. It is connected to P3 (power jack), but
>at least with the jack TAPR sent me, it never connects to ground. Not to
>useful =) At least it is easy to fix a new board revision!

The idea is that when a battery is soldered into B1, and you plug in a external power supply via P3, that the battery is disconnected. It happens to do this via the ground lead.

>The power jack's (P3) center conductor is larger then what I have around
>the shack. It is just person prefence, but I ended up desoldering the beast
>and putting in something more common.

I pulled one out and you are right. Hmmm. I compared it to one I purchased from Jameco. It's barely noticable, but it is slightly larger. Anyone else having problems?

>I would be willing to write a section on programming the pic under Linux. I
>uploaded a very simple, non-interactive, PIC16f84 progammer to the
>incomming dirrectory, but it has disappeared now. I think about 3 more
>paragraphs in the manual would be suitable for covering it.

Was the file name serp.tgz? I have it and didn't want to post anything that was not tested on the PIC-E. If only to not confuse folks.

Thanks James!

- Steve
(n7hpr@tapr.org)
(n7hpr@amsat.org)

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March 1999

Original source file: picsig.9903
Source: http://ftp.tapr.org/tapr_history/SIG_Archives/picsig/mail_archive/picsig.9903

1. [picsig] Pic-e

From: "Ken McGuire" <mcguire.ken.e@sd.littondsd.com>
Date: Mon, 1 Mar 1999 13:3:16
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-8346-1999.03.01-13.04.50--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Got my kit on Fri, built on Sat and tested out the S/W on Sun.
 There were about 6 extra 2.2k and 1 extra 100K resistors.
 The switches didn't seem to be listed in the parts list check-off.
 My power plug is not compatible with most of the other ones I have around
the shack, but thanks to TAPR for including a mate.
 Assembly was easy, and the instructions clear.
 Initial tests with the diag program produced no problems.
 I found that I must remove JP4 to program the PIC with my laptop.
 I tried pice90, and gpsewka, but neither would work with my Tripmate. I
verified that the Tripmate had a good fix by "sniffing" the serial port
with a laptop and terminal program. Both programs worked with my GPS45
though.

 ...ken WA2VFN...

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

2. [picsig] Re: Pic-e

From: John Hansen <hansen@fredonia.edu>
Date: Mon, 01 Mar 1999 14:09:46 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-8347-1999.03.01-13.09.32--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 01:03 PM 3/1/99 +0000, you wrote:
>Got my kit on Fri, built on Sat and tested out the S/W on Sun.
> There were about 6 extra 2.2k and 1 extra 100K resistors.
> The switches didn't seem to be listed in the parts list check-off.
> My power plug is not compatible with most of the other ones I have around
>the shack, but thanks to TAPR for including a mate.
> Assembly was easy, and the instructions clear.
> Initial tests with the diag program produced no problems.
> I found that I must remove JP4 to program the PIC with my laptop.
> I tried pice90, and gpsewka, but neither would work with my Tripmate. I
>verified that the Tripmate had a good fix by "sniffing" the serial port
>with a laptop and terminal program. Both programs worked with my GPS45
>though.
>
> ...ken WA2VFN...

I have a tripmate and I know that GPS-E-2 did work with it. I think the other
programs should as well. Did you install both the tripmate jumpers? BTW, none
of this firmware will currently work with the new Delorme unit (is it
Earthmate?).

John, W2FS

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3. [picsig] Re: Pic-e

From: "Steven R. Bible" <srbible@gate.net>
Date: Mon, 01 Mar 1999 14:39:05 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-8355-1999.03.01-13.46.05--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 01:03 PM 3/1/99, you wrote:
>Got my kit on Fri, built on Sat and tested out the S/W on Sun.
> There were about 6 extra 2.2k and 1 extra 100K resistors.

The extra parts are a result of last minute parts changes as the kits were

being mailed out.

- Steve
 (n7hpr@tapr.org)
 (n7hpr@amsat.org)

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4. [picsig] Re: Pic-e

From: "Ken McGuire" <mcguire.ken.e@sd.littondsd.com>
Date: Mon, 1 Mar 1999 12:35:05 -0800
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-8366-1999.03.01-14.37.04--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

<snip>

> > I tried pice90, and gpsewka, but neither would work with my Tripmate. I
> >verified that the Tripmate had a good fix by "sniffing" the serial port

<snip>

> I have a tripmate and I know that GPS-E-2 did work with it. I think the
> other programs should as well. Did you install both the tripmate jumpers?
> BTW, none of this firmware will currently work with the new Delorme unit
> (is it Earthmate?).

Mine is not an Earthmate, and yes, I did install the 2 Tripmate
specific jumpers. What happened was that the valid light never
came on, and the PTT never activated. I know the Tripmate had a
good fix since I monitored the serial NMEA output. I haven't done
any scope work yet, so stay tuned. Since you have had luck with a
Tripmate, I'll poke around tonight.
 The Earthmate apparently won't switch to NMEA mode like the
other Rockwell Jupiter based systems. But one might replace the
NMEA decoder software in the PIC-E library with a Rockwell binary
decoder and be able to use Earthmates.
     ...73 ken WA2VFN...

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5. [picsig] Re: Pic-e

From: "Steven R. Bible" <n7hpr@amsat.org>
Date: Mon, 01 Mar 1999 16:26:15 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-8371-1999.03.01-15.24.48--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> The Earthmate apparently won't switch to NMEA mode like the
>other Rockwell Jupiter based systems. But one might replace the
>NMEA decoder software in the PIC-E library with a Rockwell binary
>decoder and be able to use Earthmates.

You got it. We were hoping someone would pony up to this task.

 - Steve
 (n7hpr@tapr.org)
 (n7hpr@amsat.org)

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6. [picsig] Re: Pic-e

From: John Hansen <hansen@del.cs.fredonia.edu>
Date: Mon, 01 Mar 1999 17:17:32 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-8374-1999.03.01-16.20.10--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 12:35 PM 3/1/99 -0800, you wrote:
>
> <snip>
>
>> > I tried pice90, and gpsewka, but neither would work with my Tripmate. I
>> >verified that the Tripmate had a good fix by "sniffing" the serial port
>
><snip>
>
>> I have a tripmate and I know that GPS-E-2 did work with it. I think the
>> other programs should as well. Did you install both the tripmate jumpers?
>> BTW, none of this firmware will currently work with the new Delorme unit
>> (is it Earthmate?).
>
>Mine is not an Earthmate, and yes, I did install the 2 Tripmate
>specific jumpers. What happened was that the valid light never
>came on, and the PTT never activated.

It sounds to me as if either the PIC didn't program properly or there was a
wiring error on the PIC-E unit. Did the diagnostic program that came with
it work?

John W2FS

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7. [picsig] Re: Pic-e

From: "Ken McGuire" <mcguire.ken.e@sd.littondsd.com>
Date: Mon, 1 Mar 1999 14:41:19 -0800
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-8377-1999.03.01-16.43.14--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>
> It sounds to me as if either the PIC didn't program properly or there was
> a wiring error on the PIC-E unit. Did the diagnostic program that came
> with it work?
>
> John W2FS
>

 The PIC-E programmed properly because it worked with my
GPS45, and not the Tripmate. Tonight I will be checking signal
levels from the Tripmate, etc.
 The PIC-E executed the diags properly too.
     ...73 ken WA2VFN...

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8. [picsig] Re: Kit assembly notes

From: John Rauch <johnr@cycat.com>
Date: Mon, 01 Mar 1999 17:46:42 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-8381-1999.03.01-17.03.52--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>I pulled one out and you are right. Hmmm. I compared it to one I
>purchased from Jameco. It's barely noticable, but it is slightly larger.
>Anyone else having problems?
>

yep.. a closer to normal jack/plug would be nice... but not the end of
the world.
John

>
>>I would be willing to write a section on programming the pic under Linux. I

>>uploaded a very simple, non-interactive, PIC16f84 progammer to the
>>incomming dirrectory, but it has disappeared now. I think about 3 more
>>paragraphs in the manual would be suitable for covering it.
>
>Was the file name serp.tgz? I have it and didn't want to post anything
>that was not tested on the PIC-E. If only to not confuse folks.
>
>
>Thanks James!
>
>
> - Steve
> (n7hpr@tapr.org)
> (n7hpr@amsat.org)
>
>
>---
>You are currently subscribed to picsig as: johnr@cycat.com
>To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org
>
>
>
>
>
John Rauch
Control Operator
   for Amateur Radio Station
      N4YXS
c/o 1450 West Lake Brantley Road
    Longwood, Florida 32779-4766
Lat. 28 41.128, Lon 081 26.155
Member - Central Fla. DX Association

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9. [picsig] Re: Pic-e

From: "Ken McGuire" <mcguire.ken.e@sd.littondsd.com>
Date: Tue, 2 Mar 1999 07:24:29 -0800
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-8500-1999.03.02-09.26.27--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Still haven't gotten the Tripmate working with the Pic-e. I verified
that the signals were getting to the PIC chip, and they were at
4800baud. The Tripmate seems to be putting out more data than
the GPS45, I didn't check all the sentences yet to see what
besides an RMC the Tripmate is putting out.
 I think that the production Pic-e needs the PTT fix that was put
into the Mic-e. This consists of a 1N4148 diode in series with R17
and the collector of Q1. if this diode is not there, the radio might
key up if it's PTT line is pulled up to some voltage >5vdc. I have
such a radio, and it would key up every time it was plugged into the
Pic-e. I looked at my Mic-e doc's and added the diode, works fine
now.
 I have also noted that sometimes the Pic-e doesn't start up
properly on power up. I think this may be due to the power supply
rise time. When I "switch" the power on things seem to be better.
When the Pic-e doesn't start up, I can get it to work by grounding
MCLR (pin 4) to reset the chip. This may need some circuit
changes in the MCLR area to guarantee that remotely located
systems always start up no matter what the risetime of the power
is.

 73
     ...73 ken WA2VFN...

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10. [picsig] Re: Pic-e

From: "Sadowski, Allan" <allan.sadowski@ncshp.org>
Date: Tue, 2 Mar 1999 11:01:13 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-8510-1999.03.02-10.01.38--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Maybe the "Re-Design" ought to go ahead and have a Power-on reset/
watchdog timer IC added to it ? I think Dallas/Maxim has these pretty
cheap...

> -----Original Message-----
> From: Ken McGuire [SMTP:mcguire.ken.e@sd.littondsd.com]
> I have also noted that sometimes the Pic-e doesn't start up
> properly on power up. I think this may be due to the power supply
> rise time. When I "switch" the power on things seem to be better.
> When the Pic-e doesn't start up, I can get it to work by grounding
> MCLR (pin 4) to reset the chip. This may need some circuit
> changes in the MCLR area to guarantee that remotely located
> systems always start up no matter what the risetime of the power
> is.
>
>

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11. [picsig] Re: Pic-e

From: Jeff King <jeff@aerodata.net>
Date: Tue, 02 Mar 1999 11:56:07 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-8518-1999.03.02-10.50.04--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I've been down this road before. One thing you need to be aware of is
that the PIC-E is ISP, or in circuit programmable, so any reset circuit
needs to take this into account.

One way to resolve things would be to put a 0.1uf cap from
MCLR to ground. This would (should) bring the MCLR line up
slower then Vcc, hence holding the part in reset while the power
stabilizes. Also, the 100K resistor to Vcc (R1) presently on the
PIC-E is out of spec. You'll want this to be 40K or less to be within
the max leakage spec on the MCLR pin (so as not to exceed 0.2V
drop on R1). But I'd just try it for now by adding the 0.1uf cap.

Also, are you enabling the POR/PWRT (Power On Reset)? This should solve
the problem you mentioned although having the cap on the MCLR is
always a good design practice for slow rising Vcc and I would strongly
suggest it for the next rev of the PIC-E. You can set POR on in the
configuration fuses setup in whatever programmer you are using.

The 16F84 doesn't appear to have BOR (Brown Out Reset) on it.
It doesn't sound like this is the problem, but I have had PIC's lockup
due to a brownout condition. I ultimately ended up going to a part
that had built in BOR, but before that I had a external BOD circuit.
You of course could use one of the BOD chips Allan mention, but
they are 25 cents and of course I was cheap. I ended up using a
3 cent PNP transistor and a few resistors for my BOD circuit. The
MCLR line is pulled low by a 40K resistor and the PNP transistor
is arranged to pull MCLR high. On the base of the PNP transistor
is a resistor divider network, which if VCC is high enough, presents
a 0.6volt or higher potential to the transistor, hence the transistor is
on and the PIC is out of reset. If the voltage drops, the transistor turns

off, and the 10K resistor to ground on MCLR puts the PIC in reset.
There is a discussion of this in section 8.8 of the data sheet.

I'm not sure how this circuit would react with ISP however. But
I think turning on POR/PWRT and the 0.1uf cap will solve you
problem anyways.

-Jeff

"Sadowski, Allan" wrote:

> Maybe the "Re-Design" ought to go ahead and have a Power-on reset/
> watchdog timer IC added to it ? I think Dallas/Maxim has these pretty
> cheap...
>
> > -----Original Message-----
> > From: Ken McGuire [SMTP:mcguire.ken.e@sd.littondsd.com]

> > I have also noted that sometimes the Pic-e doesn't start up
> > properly on power up. I think this may be due to the power supply
> > rise time. When I "switch" the power on things seem to be better.
> > When the Pic-e doesn't start up, I can get it to work by grounding
> > MCLR (pin 4) to reset the chip. This may need some circuit
> > changes in the MCLR area to guarantee that remotely located
> > systems always start up no matter what the risetime of the power
> > is.
> >
> >
>
> ---
> You are currently subscribed to picsig as: jeff@aerodata.net
> To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

---
You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

12. [picsig] Software for the Earthmate GPS

From: "Mark Grimes" <Mark_Grimes@compuserve.com>
Date: Tue, 2 Mar 1999 11:41:11
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-8528-1999.03.02-11.42.47--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I have an Earthmate GPS and would like to see it working with the PIC-E. I
found the specifications at:

http://www.acte.no/technical/gps/jupiter.htm

and was able to get the Earthmate working with my HP-48 calculator. The
binary protocol isn't a lot of fun, but you can wallow around ang get the
numbers out. Initialization is required. I think a binary-to-NMEA
subroutine would be useful, but I haven't received my kit yet.

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

13. [picsig] Re: Pic-e

From: "Steven R. Bible" <srbible@gate.net>
Date: Tue, 02 Mar 1999 13:13:10 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-8530-1999.03.02-12.19.36--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 11:01 AM 3/2/99 -0500, you wrote:
>Maybe the "Re-Design" ought to go ahead and have a Power-on reset/
>watchdog timer IC added to it ? I think Dallas/Maxim has these pretty
>cheap...
>
>> -----Original Message-----
>> From: Ken McGuire [SMTP:mcguire.ken.e@sd.littondsd.com]
>> I have also noted that sometimes the Pic-e doesn't start up
>> properly on power up. I think this may be due to the power supply
>> rise time. When I "switch" the power on things seem to be better.
>> When the Pic-e doesn't start up, I can get it to work by grounding
>> MCLR (pin 4) to reset the chip. This may need some circuit
>> changes in the MCLR area to guarantee that remotely located
>> systems always start up no matter what the risetime of the power
>> is.

The PIC microcontrollers already have this built in. It is called Power up
timer. Make sure you enable this switch upon programming. It adds a 72 ms
delay, holding the reset line. This allows the power line to come up to
level before the PIC starts running.

- Steve
 (n7hpr@tapr.org)
 (n7hpr@amsat.org)

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

14. [picsig] Re: Pic-e

From: "Steven R. Bible" <srbible@gate.net>
Date: Tue, 02 Mar 1999 13:26:22 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-8531-1999.03.02-12.33.02--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 07:24 AM 3/2/99 -0800, you wrote:
> Still haven't gotten the Tripmate working with the Pic-e. I verified
>that the signals were getting to the PIC chip, and they were at
>4800baud. The Tripmate seems to be putting out more data than
>the GPS45, I didn't check all the sentences yet to see what
>besides an RMC the Tripmate is putting out.

The PIC-E code that N6BG wrote parses the RMC sentence. It should work
(famous last words :-).

> I think that the production Pic-e needs the PTT fix that was put
>into the Mic-e. This consists of a 1N4148 diode in series with R17
>and the collector of Q1. if this diode is not there, the radio might
>key up if it's PTT line is pulled up to some voltage >5vdc. I have
>such a radio, and it would key up every time it was plugged into the
>Pic-e. I looked at my Mic-e doc's and added the diode, works fine
>now.

This was considered and we went ahead with the present design. Jeff King
also mentioned putting it is. In my set ups I have not had problems, but
that's not so say you or someone else has a radio suspetable. Great that
you've implemented it and it works. We can add this to the updated PIC-E.

> I have also noted that sometimes the Pic-e doesn't start up
>properly on power up. I think this may be due to the power supply
>rise time. When I "switch" the power on things seem to be better.
>When the Pic-e doesn't start up, I can get it to work by grounding
>MCLR (pin 4) to reset the chip. This may need some circuit
>changes in the MCLR area to guarantee that remotely located
>systems always start up no matter what the risetime of the power
>is.

See my post on PWRT configuration. Please verify that you have enabled
this function and let us know how it works. So to come up to voltage power
supplies will be a problem for PICs. I've seen this many times. The PWRT
works most of the time except for the slowest of power supplies.

- Steve
 (n7hpr@tapr.org)
 (n7hpr@amsat.org)

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

15. [picsig] Re: picsig digest: February 28, 1999

From: Mark Grennan <mgrennan@mail.fleming.com>
Date: Tue, 02 Mar 1999 13:04:34 -0600
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-8532-1999.03.02-13.06.15--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

TAPR PIC Development Special Interest Group digest wrote:

Jeff King wrote:

> I would be willing to write a section on programming the pic under Linux. I
> uploaded a very simple, non-interactive, PIC16f84 progammer to the
> incomming dirrectory, but it has disappeared now. I think about 3 more
> paragraphs in the manual would be suitable for covering it.
>

Jeff I agree with your assement of the kit. I have put up a web page of my
experience.

See http://mark.grennan.com/pice_project1/

I am also working on a PIC/Linux programming page. I would like to help with your
writing if I could.

See also http://mark.grennan.com/picprog/

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

16. [picsig] Re: Pic-e

From: Jeff King <jeff@aerodata.net>
Date: Tue, 02 Mar 1999 14:23:13 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-8533-1999.03.02-13.17.06--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

"Steven R. Bible" wrote:

> At 11:01 AM 3/2/99 -0500, you wrote:
> >Maybe the "Re-Design" ought to go ahead and have a Power-on reset/
> >watchdog timer IC added to it ? I think Dallas/Maxim has these pretty
> >cheap...

> >clip<

>
> The PIC microcontrollers already have this built in. It is called Power up
> timer. Make sure you enable this switch upon programming. It adds a 72 ms
> delay, holding the reset line. This allows the power line to come up to
> level before the PIC starts running.

Hmmm..... my databook calls it POR, not PUT, but it sounds like the same
thing.

However, the 16F84 does not have brownout on it. The POR/PUT will not
deal with a Vcc drop, only a rise on power up. If one wants to put the PIC-E
on a automobile, and have it run all the time without locking up, you would
need a brownout circuit. Many of the "power-on reset" IC's mentioned earlier
also include brownout reset in addition to that circuit I mentioned in my last
posting.

Assuming one of the applications of the production PIC-E will be automotive
related (of which I assume MIC-E is), then you *will* need provisions for
a BOR. Of note on the original MIC-E/MIM is that it was done on a 16C73
which does have BOR.

-Jeff

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

17. [picsig] Re: picsig digest: February 28, 1999

From: Jeff King <jeff@aerodata.net>
Date: Tue, 02 Mar 1999 14:27:07 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Cc: TAPR PIC Development Special Interest Group <picsig@lists.tapr.org>
Message-ID: <LYR6890-8534-1999.03.02-13.21.07--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Mark Grennan wrote:

> TAPR PIC Development Special Interest Group digest wrote:
>
> Jeff King wrote:
>
> > I would be willing to write a section on programming the pic under Linux. I
> > uploaded a very simple, non-interactive, PIC16f84 progammer to the
> > incomming dirrectory, but it has disappeared now. I think about 3 more
> > paragraphs in the manual would be suitable for covering it.
> >
>
> Jeff I agree with your assement of the kit.

I didn't say the above. I didn't make any comments yet on the construction of
the kit. Thanks for the credit but it appears someone else deserves it.

-Jeff

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

18. [picsig] Re: Pic-e

From: John Hansen <hansen@del.cs.fredonia.edu>
Date: Tue, 02 Mar 1999 16:19:05 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-8549-1999.03.02-15.22.06--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 11:56 AM 3/2/99 -0500, you wrote:
>
>One way to resolve things would be to put a 0.1uf cap from
>MCLR to ground. This would (should) bring the MCLR line up
>slower then Vcc, hence holding the part in reset while the power
>stabilizes.

I'd like to try this. A number of people have been having problems with
this even with the power up delay set to on. The idea that this is related
to the power supply that is being used is consistent with the evidence. If
Jeff's cap proposal works, I think it is worth adding.

 Also, the 100K resistor to Vcc (R1) presently on the
>PIC-E is out of spec. You'll want this to be 40K or less to be within
>the max leakage spec on the MCLR pin (so as not to exceed 0.2V
>drop on R1). But I'd just try it for now by adding the 0.1uf cap.
>

The problem is that low value resistors cause the programmer not to work.
I've not had much success even with 100K, thought 330K worked fine.
However, 330K sometimes did not reliably pull up MCLR. I switched to using
a 1N914 diode instead of R1, and it was worked just fine.

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

19. [picsig] Automotive PIC-E

From: Jeff King <jeff@aerodata.net>
Date: Tue, 02 Mar 1999 16:52:56 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-8551-1999.03.02-15.46.50--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Some of the things I'd do to run the PIC-E in a vehicle. The
most stress is when the vehicle is cranking.
(I've designed climate control modules for Ford (68HC11) and
these are some of the things they do):

1. Isolate 78L05 with a diode (only positive power can flow).
You can get up to -150 volts on the automotive power on cranking
due to the back EMF from the starter motor. Also see #5

2. Put a hold up cap on the input to the 78L05. This allows
the 78L05 to still provide some power if the power "goes away"
briefly. The diode in #1 above prevents the onboard cap from
trying to power the rest of the auto. (assuming of course you
put the cap on the downstream side of the diode)

3. Make your POR/PUT as long as you can stand. 200 ms is not to
long or even longer. The R/C value of R1 and your cap will
determine the length of time the part is held in reset. The built-in
POR/PUT might be OK if you have a BOR.

4. Use a brownout reset (BOR). You can always disconnect the PIC-E
if your car battery goes dead, but a automotive electronic device
must recover automatically from a excursion to 3volts and back to
13.8volts.

5. Use a MOV to protect the circuit from back EMF and popping
the parts.

-Jeff

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

20. [picsig] Re: picsig digest: February 28, 1999

From: James Jefferson <jjeffers@deskmedia.com>
Date: Tue, 02 Mar 1999 15:50:55 -0600
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-8553-1999.03.02-15.52.36--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>I didn't say the above. I didn't make any comments yet on the construction of
>the kit. Thanks for the credit but it appears someone else deserves it.

That was me that wrote about linux =)

Steve: serp.tgz is tested and works fine with the beta board. I'm intending
to at a later date add support for more I2C EEPROM's, but that is relavant
for this project. Please note that I'm not the original author. The
serp.tgz is his distribution package from 1996. With newer versions of the
linux kernel an include file needs to be fixed, but that is a simple
change. My schedule will be much better next week, so I'll write the manual
section then. Perhaps if I'm really ambitious I'll fix the include file and
make a patch.

-James Jefferson KB0THN
jjeffers@deskmedia.com
http://www.deskmedia.com/~jjeffers/

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

21. [picsig] Re: Automotive PIC-E

From: "John Rayfield, Jr." <johnjr@rayfield.net>
Date: Tue, 02 Mar 1999 16:30:41 -0600
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-8557-1999.03.02-16.32.51--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 04:52 PM 3/2/99 -0500, you wrote:

>Some of the things I'd do to run the PIC-E in a vehicle. The
>most stress is when the vehicle is cranking.
>(I've designed climate control modules for Ford (68HC11) and
>these are some of the things they do):

>3. Make your POR/PUT as long as you can stand. 200 ms is not to
>long or even longer. The R/C value of R1 and your cap will
>determine the length of time the part is held in reset. The built-in
>POR/PUT might be OK if you have a BOR.

Any particular reason to do the above, if you're already going to use a
reset chip, like a Dallas DS-1233, since this device provides a Power Up
Reset delay?

   John Rayfield, Jr.

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

22. [picsig] Re: Automotive PIC-E

From: Jeff King <jeff@aerodata.net>
Date: Tue, 02 Mar 1999 18:24:59 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-8561-1999.03.02-17.18.48--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

"John Rayfield, Jr." wrote:

> At 04:52 PM 3/2/99 -0500, you wrote:
>
> >Some of the things I'd do to run the PIC-E in a vehicle. The
> >most stress is when the vehicle is cranking.
> >(I've designed climate control modules for Ford (68HC11) and
> >these are some of the things they do):
>
> >3. Make your POR/PUT as long as you can stand. 200 ms is not to
> >long or even longer. The R/C value of R1 and your cap will
> >determine the length of time the part is held in reset. The built-in
> >POR/PUT might be OK if you have a BOR.
>
> Any particular reason to do the above, if you're already going to use a
> reset chip, like a Dallas DS-1233, since this device provides a Power Up
> Reset delay?

These were generalized comments. I didn't assume/or not assume someone
was going to use a third party reset chip. You can provide the POR in
any number of ways, both internally and externally. The brownout
reset/detection
must be provided externally however on the 16F84 parts.

Now with regards to the 1233, its reset time of 350ms would be good however
it has a internal 5K pullup resistor to Vcc. This might cause some problems
when
trying to do ISP (in circuit programming) with the 16F84. Not sure.

-Jeff

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

23. [picsig] Source

From: hshk@ix.netcom.com (HSHK)
Date: Wed, 03 Mar 1999 12:52:08 GMT
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-8624-1999.03.03-06.54.47--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi Gang,

I'm new to this reflector.

Is the source code to the Pice-E available?

Is there a PC board or template available?

I have been playing with 8051's for many years
and only recently started with the PICs.

Tnx es 73

Bill KA8VIT
hshk@ix.netcom.com

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

24. [picsig] Re: Source

From: Steve Dimse K4HG <k4hg@tapr.org>
Date: Wed, 3 Mar 1999 08:55:27 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-8634-1999.03.03-08.00.06--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On 3/3/99 7:52 AM HSHK (hshk@ix.netcom.com) wrote:

>I'm new to this reflector.

Welcome.
>
>Is the source code to the Pice-E available?

Yes, see: ftp://ftp.tapr.org/picsig/software/
>
>Is there a PC board or template available?

The first run of 50 are gone, but a second run will be available soon,
probably at or before Dayton in May.

Steve K4HG

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

25. [picsig] Re: Source

From: hshk@ix.netcom.com (HSHK)
Date: Wed, 03 Mar 1999 14:02:47 GMT
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-8636-1999.03.03-08.05.28--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Steve,

Thanks.

The how about a board template so I could make my own!

Bill KA8VIT
hshk@ix.netcom.com

On Wed, 3 Mar 1999 08:55:27 -0500, you wrote:

>On 3/3/99 7:52 AM HSHK (hshk@ix.netcom.com) wrote:
>
>>I'm new to this reflector.
>
>Welcome.
>>
>>Is the source code to the Pice-E available?
>
>Yes, see: ftp://ftp.tapr.org/picsig/software/
>>
>>Is there a PC board or template available?
>
>The first run of 50 are gone, but a second run will be available soon,
>probably at or before Dayton in May.
>
>Steve K4HG
>
>---
>You are currently subscribed to picsig as: hshk@ix.netcom.com
>To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org
>

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

26. [picsig] Providing GPS Power Source

From: Mark Grennan <mgrennan@mail.fleming.com>
Date: Wed, 03 Mar 1999 09:45:58 -0600
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-8652-1999.03.03-09.47.42--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Has any consideration been made to provide a power source for the GPS.

The Tripmate is a real battery eater. It can be powered through it's connector. I
don't know about other GPS's.

Perhaps some space for a 78xx could be given with a block of jumper pads to connect to
the appropriate pin.

KD5AMB

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

27. [picsig] Linux Developments

From: Mark Grennan <mgrennan@mail.fleming.com>
Date: Wed, 03 Mar 1999 10:00:24 -0600
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-8654-1999.03.03-10.02.04--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

James Jefferson

 > That was me that wrote about linux =)

Thats what I get for reading the digests only.

James

What are you using to compile your code and what are you using to program your PICs?

I found PICPROG 1.0 by Jaakko Hyvatti works very well. However, I did have to make
one small mode to picport.cc.

In the picport::picport (const char *tty) function, the call to usleep(1) was not long
enuff to give the cap time to charge with a longer cable. I changed this to
usleep(50000) and now it works every time.

I using picasm to asemble my programs. I have changed a few programs (picediag.asm) to
work with this assembler. Before I upload my stuff to the FTP server I thought I
should check with you and other Linux/PicE developers.

Mark Grennan KD5AMB

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

28. [picsig] Re: Providing GPS Power Source

From: "Steven R. Bible" <srbible@gate.net>
Date: Wed, 03 Mar 1999 13:35:29 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-8672-1999.03.03-12.42.01--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 09:45 AM 3/3/99 -0600, you wrote:
>Has any consideration been made to provide a power source for the GPS.
>
>The Tripmate is a real battery eater. It can be powered through it's
connector. I
>don't know about other GPS's.
>
>Perhaps some space for a 78xx could be given with a block of jumper pads
to connect to
>the appropriate pin.

Mark, the problem is the Tripmate is the only receiver that can be powered
from the connector. Unless, of course, someone custom wires their gps
receiver.

How much current does the Tripmate draw? What voltage? Does the voltage
need to be regulated?

I've seen mods that put the regulator in the Tripmate. Then you can send
raw voltage to the appropriate DB-9 pin on the PIC-E.

ABre in mind the 78L05 can only handle 100ma. A high capacity regulator
will have to be choosen. The 7805 is a poor choice for battery operation.

- Steve
 (n7hpr@tapr.org)
 (n7hpr@amsat.org)

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

29. [picsig] Re: Providing GPS Power Source

From: "Brent Hildebrand" <bhildebrand@earthlink.net>
Date: Wed, 3 Mar 1999 10:52:31 -0800
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-8676-1999.03.03-12.51.32--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

-----Original Message-----
From: Steven R. Bible <srbible@gate.net>
To: TAPR PIC Development Special Interest Group <picsig@lists.tapr.org>
Date: Wednesday, March 03, 1999 10:40 AM
Subject: [picsig] Re: Providing GPS Power Source

>At 09:45 AM 3/3/99 -0600, you wrote:
>>Has any consideration been made to provide a power source for the GPS.
>>
>>The Tripmate is a real battery eater. It can be powered through it's
>connector. I
>>don't know about other GPS's.
>>
>>Perhaps some space for a 78xx could be given with a block of jumper pads
>to connect to
>>the appropriate pin.
>
>
>Mark, the problem is the Tripmate is the only receiver that can be powered
>from the connector. Unless, of course, someone custom wires their gps
>receiver.

*** The Garmin GPS-35LP receiver series are low power receivers. I have the
high voltage version which draws 69 ma at 12 volts. There is also a control
line to power up and down the receiver. The 35LP has 2 serial ports: one
has NMEA data output, the other has binary data output with position/time
data such as Lat/Long, altitude and 3D velocities in one binary packet, and
pseudo-ranges in another binary packet.

The GPS-35 may be a good receiver to interface with a Pic. Allowing
applications where the receiver can be turned and off by the Pic. And they
are now $149.00

Brent KH2Z

>
>How much current does the Tripmate draw? What voltage? Does the voltage
>need to be regulated?
>
>I've seen mods that put the regulator in the Tripmate. Then you can send
>raw voltage to the appropriate DB-9 pin on the PIC-E.
>
>ABre in mind the 78L05 can only handle 100ma. A high capacity regulator
>will have to be choosen. The 7805 is a poor choice for battery operation.
>
>
>- Steve
> (n7hpr@tapr.org)
> (n7hpr@amsat.org)
>
>
>---
>You are currently subscribed to picsig as: bhildebrand@earthlink.net
>To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org
>
>

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

30. [picsig] Re: Providing GPS Power Source

From: Bill Vodall <Vodall@bigsky.com>
Date: Wed, 03 Mar 1999 12:05:46 -0800
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-8703-1999.03.03-14.07.01--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>
>*** The Garmin GPS-35LP receiver series are low power receivers. I have the
>high voltage version which draws 69 ma at 12 volts. There is also a control
>line to power up and down the receiver. The 35LP has 2 serial ports: one
>has NMEA data output, the other has binary data output with position/time
>data such as Lat/Long, altitude and 3D velocities in one binary packet, and
>pseudo-ranges in another binary packet.
>
>The GPS-35 may be a good receiver to interface with a Pic. Allowing
>applications where the receiver can be turned and off by the Pic. And they
>are now $149.00
>
>Brent KH2Z

Sounds like my plans for an extremely portable "walking tracker" are
coming together.   The low power version of the GPS-35 has a non-RS232
CMOS interface. Won't that hook directly up to the Pic-E?   Bypassing the
RS232 circuitry should cut down on the power consumption.

Bill WA7NWP

Bill Vodall   425-869-2320 Fax: 425-881-1008
mailto:bvodall@hyperlynx.com   http://www.hyperlynx.com
Signal Integrity and EMC Analysis Software for High-Speed PCB Design
----

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31. [picsig] Re: Providing GPS Power Source

From: Steve Dimse K4HG <k4hg@tapr.org>
Date: Wed, 3 Mar 1999 15:11:20 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-8705-1999.03.03-14.13.53--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On 3/3/99 3:05 PM Bill Vodall (Vodall@bigsky.com) wrote:

>Sounds like my plans for an extremely portable "walking tracker" are
>coming together.   The low power version of the GPS-35 has a non-RS232
>CMOS interface. Won't that hook directly up to the Pic-E?   Bypassing the
>RS232 circuitry should cut down on the power consumption.
>
Yes, it works fine, I've used a 35 with my Pic-E. And a little software
change would allow you to power the GPS only when you need it for the
ultimate in low power. This is one of the things on my way-too-long do
list.

Steve K4HG

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32. [picsig] Re: Providing GPS Power Source

From: "Mark Grennan" <mgrennan@fleming.com>
Date: Wed, 3 Mar 1999 14:29:32
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-8706-1999.03.03-14.31.09--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

That gives me an idea.

Maybe a PIC-E could be put in the base of a TripMate (after removing the
battaries) The RS-232 cord cord could be replace with a power/mike jack
cable.

This could plug directly into the back on my ICOM-706. It has two mic

jacks.

How perfect could you get?

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33. [picsig] Re: Providing GPS Power Source

From: Steve Dimse K4HG <k4hg@tapr.org>
Date: Wed, 3 Mar 1999 15:39:38 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-8710-1999.03.03-14.42.15--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On 3/3/99 2:29 PM Mark Grennan (mgrennan@fleming.com) wrote:

>Maybe a PIC-E could be put in the base of a TripMate (after removing the
>battaries) The RS-232 cord cord could be replace with a power/mike jack
>cable.
>
>This could plug directly into the back on my ICOM-706. It has two mic
>jacks.
>
>How perfect could you get?
>
To use as a stand-alone tracker, it would be great. However, if you
wanted to use the Mic-E function of appending the packet to the end of a
voice transmission, you must plug the mic into the Pic-E.

Steve K4HG

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34. [picsig] Re: Providing GPS Power Source

From: "Mark Grennan" <mgrennan@fleming.com>
Date: Wed, 3 Mar 1999 15:17:50
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-8715-1999.03.03-15.19.31--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Well, I all ready have a project that tracks the PTT line at both ports at
the same time so I don't think you are correct. The Pic-E would see the
drop of the PTT and could then Re-key the mic in ms.

Is this a problem?

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35. [picsig] Re: Providing GPS Power Source

From: Steve Dimse K4HG <k4hg@tapr.org>
Date: Wed, 3 Mar 1999 16:38:13 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-8719-1999.03.03-15.39.57--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On 3/3/99 3:17 PM Mark Grennan (mgrennan@fleming.com) wrote:

>Well, I all ready have a project that tracks the PTT line at both ports at
>the same time so I don't think you are correct. The Pic-E would see the
>drop of the PTT and could then Re-key the mic in ms.
>
>Is this a problem?
>
Afraid so, but probably not insolvable. In a Mic-E type installation, the
PTT line does not pass straight thru the unit, it is the only line that
is split. The Mic connector side goes to an input line on the PIC, while
the output side goes through a transistor for switching. There are diodes
in the circuit that would prevent toggling on the radio connector from
being sensed by the PIC. You would have to re-wire the unit to share the
line. You'd also run into the situation where the unit would switch
xmit/receive/xmit, so you would have to lengthen the manual TXDelay to
account for this.

Steve K4HG

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36. [picsig] Re: Source

From: "Steven R. Bible" <srbible@gate.net>
Date: Wed, 03 Mar 1999 16:42:09 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-8721-1999.03.03-15.40.34--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 02:02 PM 3/3/99 GMT, you wrote:
>Steve,
>
>Thanks.
>
>The how about a board template so I could make my own!

The schematic is in

    ftp://ftp.tapr.org/picsig/docs/

The board templates are being changed. That's the purpose of this evaluation.

 - Steve
 (n7hpr@tapr.org)
 (n7hpr@amsat.org)

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37. [picsig] Re: Providing GPS Power Source

From: Alan Crosswell <n2ygk@weca.org>
Date: Wed, 3 Mar 99 16:41:06 EST
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-8722-1999.03.03-15.42.49--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>How perfect could you get?

You'd have to spraypaint the tripmate black to make it perfect:-)
/a

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38. [picsig] Re: Providing GPS Power Source

From: "Steven R. Bible" <srbible@gate.net>
Date: Wed, 03 Mar 1999 17:02:59 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-8725-1999.03.03-16.01.21--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 12:05 PM 3/3/99 -0800, you wrote:
>
>>
>>*** The Garmin GPS-35LP receiver series are low power receivers. I have the
>>high voltage version which draws 69 ma at 12 volts. There is also a control
>>line to power up and down the receiver. The 35LP has 2 serial ports: one
>>has NMEA data output, the other has binary data output with position/time
>>data such as Lat/Long, altitude and 3D velocities in one binary packet, and
>>pseudo-ranges in another binary packet.
>>
>>The GPS-35 may be a good receiver to interface with a Pic. Allowing
>>applications where the receiver can be turned and off by the Pic. And they
>>are now $149.00
>>
>>Brent KH2Z
>
>
>Sounds like my plans for an extremely portable "walking tracker" are

>coming together. The low power version of the GPS-35 has a non-RS232
>CMOS interface. Won't that hook directly up to the Pic-E? Bypassing the
>RS232 circuitry should cut down on the power consumption.

Okay, let's set the record straight before too many people get confused :-).

There are three flavors of the GPS35

  GPS35-LVS
  GPS35-HVS
  GPS35-PC

The -LVS is a low power version. It requires regulated and filtered +5V (+
or - 1 volt). Has two serial ports: RS-232 levels or you can get a CMOS
version which means + and - 5 volts on the serial lines.

The -HVS is a high voltage version meaning that a regulator is built in.
You can feed it 9-30 volts. Two serial ports.

The -PC version is a repackaged -HVS without the second serial port and has
a DB-9 and cigarette lighter plugs.

My vote would be for the -LVS version for the lower current requirements
and two serial ports. The -LVS and -HVS have a power down line which puts
the receiver in a lower current drain mode. This can be controlled by the
PIC-E. The draw back is needing a voltage regulator. I use a Power Trends
switching regulator that is low queisent voltage, short circuit protect,
and works great with batteries. They version I use cost $13.13 from Digi-Key.

 - Steve
 (n7hpr@tapr.org)
 (n7hpr@amsat.org)

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39. [picsig] Re: Providing GPS Power Source

From: "Brent Hildebrand" <bhildebrand@earthlink.net>
Date: Wed, 3 Mar 1999 14:21:38 -0800
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-8728-1999.03.03-16.27.33--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>>Sounds like my plans for an extremely portable "walking tracker" are
>>coming together. The low power version of the GPS-35 has a non-RS232
>>CMOS interface. Won't that hook directly up to the Pic-E? Bypassing the
>>RS232 circuitry should cut down on the power consumption.
>
>
>Okay, let's set the record straight before too many people get confused
:-).
>
>There are three flavors of the GPS35
>

Actually, they are all GPS-35 LP (low power) in 3 flavors:
GPS-35-LVC
GPS-35-LVS
GPS-35-HVS

Is the GPS-35 PC still made??? I don't know.

> GPS35-LVS
> GPS35-HVS
> GPS35-PC
>
>The -LVS is a low power version. It requires regulated and filtered +5V (+
>or - 1 volt). Has two serial ports: RS-232 levels or you can get a CMOS
>version which means + and - 5 volts on the serial lines.
>
>The -HVS is a high voltage version meaning that a regulator is built in.
>You can feed it 9-30 volts. Two serial ports.

HVS requires 6-40 volts input.

>
>The -PC version is a repackaged -HVS without the second serial port and has
>a DB-9 and cigarette lighter plugs.
>
>My vote would be for the -LVS version for the lower current requirements
>and two serial ports. The -LVS and -HVS have a power down line which puts
>the receiver in a lower current drain mode. This can be controlled by the
>PIC-E. The draw back is needing a voltage regulator. I use a Power Trends
>switching regulator that is low queisent voltage, short circuit protect,
>and works great with batteries. They version I use cost $13.13 from
Digi-Key.
>

>From the manual

1.1 OVERVIEW
The GARMIN GPS 35LP is a complete GPS receiver, including an embedded
antenna, designed for a
broad spectrum of OEM (Original Equipment Manufacturer) system applications.
Based on the proven
technology found in other GARMIN 12 channel GPS receivers, the GPS 35LP will
track up to 12
satellites at a time while providing fast time-to-first-fix, one second
navigation updates and low power
consumption. Its far reaching capability meets the sensitivity requirements
of land navigation as well as
the dynamics requirements of high performance aircraft.
The GPS 35LP design utilizes the latest technology and high level circuit
integration to achieve superior
performance while minimizing space and power requirements. All critical
components of the system
including the RF/IF receiver hardware and the digital baseband are designed
and manufactured by
GARMIN to ensure the quality and capability of the GPS 35LP. This hardware
capability combined with
software intelligence makes the GPS 35LP easy to integrate and use.
The GPS 35LP is designed to withstand rugged operating conditions and is
completely water resistant.
The GPS 35LP is a complete GPS receiver that requires minimal additional
components be supplied by
an OEM or system integrator. A minimum system must provide the GPS 35LP with
a source of power
and a clear view of the GPS satellites. The system may communicate with the
GPS 35LP via a choice of
two RS-232 compatible full duplex communication channels (-xVS series), or
two full duplex CMOS
channels (-xVC series). Internal memory backup allows the GPS 35LP to retain
critical data such as
satellite orbital parameters, last position, date and time. End user
interfaces such as keyboards and
displays are added by the application designer.
1.2 FEATURES
The GPS 35LP provides a host of features that make it easy to integrate and
use.
1) Full navigation accuracy provided by Standard Positioning Service (SPS)
2) Compact design ideal for applications with minimal space
3) High performance receiver tracks up to 12 satellites while providing fast
first fix and low power
consumption
4) Differential capability utilizes real-time RTCM corrections producing
3-10 meter position accuracy
5) Internal clock and memory are sustained by a rechargeable memory backup
battery. The battery
recharges during normal operation.
6) User initialization is not required
7) Navigation mode (2D or 3D) may be configured by the user
8) Two communication channels and user selectable baud rates allow maximum
interface capability
and flexibility
9) Highly accurate one-pulse-per-second output for precise timing
measurements. Pulse width is
configurable in 20 msec increments from 20 msec to 980 msec.
10) Binary Format Phase Data Output on TXD2
11) Flexible input voltage levels of 3.6Vdc to 6.0Vdc with overvoltage
protection in the -LVx versions,
and 6.0Vdc to 40Vdc in the -HVx versions.

12) FLASH based program memory. New software revisions upgradeable through serial interface.

1.3 Naming Conventions

The GPS 35LP Series TrackPack receivers are delineated with a three letter extension to designate the operating voltage range and the serial data voltage specification.

High Voltage - GPS35-HVx designation indicates that the unit will accept a high input voltage. The internal switching regulator will operate from a 6VDC to 40VDC unregulated supply.

Low Voltage - GPS35-LVx designation indicates that the unit is designed to operated from a low voltage 3.6VDC to 6.0VDC supply. Operation at about 4VDC is the most power efficient mode of operation for the GPS35LP receiver. The unit is protected if a high voltage is inadvertently applied to the input.

RS-232 Serial Data - GPS35-xVS designation means that the two bi-directional serial data ports are true RS-232 ports conforming to the RS-232E standard.

CMOS Serial Data - GPS35-xVC designation means that the two bi-directional serial data ports use CMOS output buffers. The input buffers will accept either CMOS(TTL) voltage levels or RS-232 voltage levels. This configuration is adequate for communicating directly with serial devices over short cable lengths (less than 20 meters).

1.4 TECHNICAL SPECIFICATIONS

Specifications are subject to change without notice.

1.4.1 Physical Characteristics

1) Single construction integrated antenna/receiver.
2) Weight: 4.4 oz, (124.5 g), not including cable
3) Size: 2.230" (w) x 3.796" (l) x 1.047" (h), (56.64 mm x 96.42 mm x 26.60 mm)

1.4.2 Environmental Characteristics

1) Operating temperature: -30°C to +85°C (internal temperature)
2) Storage temperature: -40°C to +90°C

1.4.3 Electrical Characteristics

1) Input voltage: +3.6VDC to 6.0VDC regulated, 150mV ripple -LVx versions. +6.0VDC to 40VDC unregulated -HVx version.
2) Input current: 120 mA typical 140 mA max -LVx versions, 20 mA while in power down.
870mW typical 1000mW max -HVx version, 300uA while in power down.
3) Backup power: 3V Rechargeable Lithium cell battery, up to 6 month charge.
4) Power Down Input: 2.7V threshold

1.4.4 Performance

1) Tracks up to 12 satellites (up to 11 with PPS active)
2) Update rate: 1 second
3) Acquisition time
- 15 seconds warm (all data known)
- 45 seconds cold (initial position, time and almanac known, ephemeris unknown)
- 5.0 minutes AutoLocate TM (almanac known, initial position and time unknown)
- 5 minutes search the sky (no data known)
4) Position accuracy:
Differential GPS (DGPS): 5 meters RMS
Non-differential GPS: 15 meters RMS (100 meters with Selective Availability on)
5) Velocity accuracy: 0.2 m/s RMS steady state (subject to Selective Availability)
6) Dynamics: 999 knots velocity, 6g dynamics
7) One-pulse-per-second accuracy: +/-1 microsecond at rising edge of PPS pulse (subject to Selective Availability)

1.4.5 Interfaces

1) Dual channel CMOS/TTL level (-xVC versions) or RS-232 compatible level (-xVS versions), with user selectable baud rate (300, 600,1200, 2400, 4800, 9600, 19200)
2) NMEA 0183 Version 2.0 ASCII output (GPALM, GPGGA, GPGSA, GPGSV, GPRMC, GPVTG, PGRME, PGRMT, PGRMV, PGRMF, LCGLL, LCVTG)

Inputs
- Initial position, date and time (not required)
- Earth datum and differential mode configuration command, PPS Enable, almanac

Outputs
- Position, velocity and time
- Receiver and satellite status

- Differential Reference Station ID and RTCM Data age
- Geometry and error estimates
3) Real-time Differential Correction input (RTCM SC-104 message types 1,2,3
and 9)
4) One-pulse-per-second timing output
5) Binary Format Phase Data

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40. [picsig] Re: Providing GPS Power Source

From: "Steven R. Bible" <srbible@gate.net>
Date: Wed, 03 Mar 1999 17:33:52 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-8729-1999.03.03-16.32.25--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>Actually, they are all GPS-35 LP (low power) in 3 flavors:
>GPS-35-LVC
>GPS-35-LVS
>GPS-35-HVS
>
>Is the GPS-35 PC still made??? I don't know.

Yes it is.

I've been in negotiation with Garmin for TAPR to sell the GPS35. The
question is which version? I asked on the HTAPRS list and received no
replies.

 - Steve
 (n7hpr@tapr.org)
 (n7hpr@amsat.org)

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41. [picsig] Re: Source

From: Jeff King <jeff@aerodata.net>
Date: Wed, 03 Mar 1999 17:46:37 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-8732-1999.03.03-16.40.26--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

"Steven R. Bible" wrote:

>The board templates are being changed. That's the purpose of this evaluation.

Minor or major? Any thoughts on the changes I suggested
to free more I/O as well as redefining some of the hardware I/O to make
better use of the 16F84's internal software archtecture?

If you looking for suggestions, drop a 8 pin DIP socket on there wired for the
24x series of I2C devices. Also, a prototyping area would be handy.... this
is just a array of uncommitted plated holes on 0.1" centers.

-Jeff

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42. [picsig] Re: Providing GPS Power Source

From: Jeff King <jeff@aerodata.net>
Date: Wed, 03 Mar 1999 17:55:58 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-8735-1999.03.03-16.49.43--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

"Steven R. Bible" wrote

> I've been in negotiation with Garmin for TAPR to sell the GPS35. The
> question is which version? I asked on the HTAPRS list and received no
> replies.

You'd be better off asking that question on the TACGPS list.

Have you, TAPR (or anyone for that matter) considered any of the SiRF
based GPS receivers? Power consumption appears lower then the Garmin
and reaq time is faster. I'm supposed to get a few this week from Mitac...

they also have a integrated version as well (at about $95 OEM) which is
similar to the GPS-35.

-Jeff

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43. [picsig] Pic-e Suggestions

From: "Ken McGuire" <mcguire.ken.e@sd.littondsd.com>
Date: Wed, 3 Mar 1999 14:48:23 -0800
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-8736-1999.03.03-16.50.25--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>
> "Steven R. Bible" wrote:
>
> >The board templates are being changed. That's the purpose of this
> >evaluation.
>
> Minor or major? Any thoughts on the changes I suggested
> to free more I/O as well as redefining some of the hardware I/O to make
> better use of the 16F84's internal software archtecture?
>
> If you looking for suggestions, drop a 8 pin DIP socket on there wired for
> the 24x series of I2C devices. Also, a prototyping area would be handy....
> this is just a array of uncommitted plated holes on 0.1" centers.
>
> -Jeff
>

 And maybe using a switching regulator like is in the DGPSIB.
 I second the motion for an 8pin DIP for EEPROM.
     ...73 ken WA2VFN...

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44. [picsig] Re: Providing GPS Power Source

From: "Brent Hildebrand" <bhildebrand@earthlink.net>
Date: Wed, 3 Mar 1999 14:54:01 -0800
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-8738-1999.03.03-16.53.00--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>>Actually, they are all GPS-35 LP (low power) in 3 flavors:
>>GPS-35-LVC
>>GPS-35-LVS
>>GPS-35-HVS
>>
>>Is the GPS-35 PC still made??? I don't know.
>
>
>Yes it is.
>
>I've been in negotiation with Garmin for TAPR to sell the GPS35. The
>question is which version? I asked on the HTAPRS list and received no
>replies.
>

All GPS-35 receivers will run on 6 volts. This is handy for reprogramming

the flash ram for the firmware. The GPS-35 sells for $149.00 from Garmin
direct. Would TAPR beat that?

They really do still make the 35-PC? This is nice in that it has the
connectors in place, but limits the flexibility of the receiver. The other
3 variants come with bare wires. I put an RJ-45 connector on the end of the
cable to simplify the connection to my several configurations where I use
the 35. The non-PC versions has dual serial ports, a power control line,
and 1-PPS output.

Brent

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45. [picsig] Re: Source

From: "Steven R. Bible" <srbible@gate.net>
Date: Wed, 03 Mar 1999 18:06:34 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-8739-1999.03.03-17.05.04--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 05:46 PM 3/3/99 -0500, you wrote:
>
>
>"Steven R. Bible" wrote:
>
>>The board templates are being changed. That's the purpose of this
evaluation.
>
>Minor or major? Any thoughts on the changes I suggested
>to free more I/O as well as redefining some of the hardware I/O to make
>better use of the 16F84's internal software archtecture?

Good question. Let's divide changes into two categories, minor and major.

Minor changes are to the present PIC-E design. If it undergoes major
changes or feature creeping, we'll never get it out. So far we need to
correct J4/J5/J6 and the left/center/right got mixed up. That's why
there's a 3-pin jumper in there. We also want to add a dropping resistor
in series with VR1 so that there is finer adjustment resolution. The
changes mentioned on the list is adding the diode for PTT and changing the
power connector to a not-so-large center pin.

For major changes, plans are to create a PIC-E-II with a bigger, badder
PIC. We've had our eye on the new flash parts since last March. Microchip
has been slow to introduce these new parts (some 20 new flash PICs). Our
eye is on the PIC16F873, the pin-for-pin replacement for the PIC16C73. So
any major changes will need to be suggested for the PIC-E-II.

>If you looking for suggestions, drop a 8 pin DIP socket on there wired for
the
>24x series of I2C devices. Also, a prototyping area would be handy.... this
>is just a array of uncommitted plated holes on 0.1" centers.

Good idea, and we'll put this in on the PIC-E-II design.

Comments are always welcome. Please understand that your idea may or may
not be included because of design tradeoffs.

 - Steve
 (n7hpr@tapr.org)
 (n7hpr@amsat.org)

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46. [picsig] Re: Providing GPS Power Source

From: "Mark Grennan" <mgrennan@fleming.com>
Date: Wed, 3 Mar 1999 17:27:42
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-8740-1999.03.03-17.29.22--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I thought you where going to say that.

I know the software could be changed to handel this in the PIC. Would
these few ms loss of transmit bother the receiver?

What is used on the repeater to pic-up the APRS burst anyway?

Mark G. KD5AMB

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47. [picsig] New Pic's, was Re: Source

From: Jeff King <jeff@aerodata.net>
Date: Wed, 03 Mar 1999 18:50:54 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-8744-1999.03.03-17.44.43--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

"Steven R. Bible" wrote:

> For major changes, plans are to create a PIC-E-II with a bigger, badder
> PIC. We've had our eye on the new flash parts since last March. Microchip
> has been slow to introduce these new parts (some 20 new flash PICs). Our
> eye is on the PIC16F873, the pin-for-pin replacement for the PIC16C73. So
> any major changes will need to be suggested for the PIC-E-II.

That reminds me, I forgot to tell Steve the results of my meeting with MicroChip

on Monday.

The 16F628, a 2K Flash part, which can drop into the present PIC-E, will
be sampling starting in April. "Civilians" (meaning those that buy less then
100,000
PIC's a year) can get them in May. Data sheets will be available then also.
Production
is scheduled to begin in July. This part is a FLASH part like the 16F84.
However,
it has 2K of flash to the 1K in the F84. IT also has 128 bytes of E2, 224 bytes
of RAM, a real BOD, 1-16bit timer, 2-8 bit timers, a couple of comparators,
a programmable voltage reference and a real UART. It also
will run at 20mhz (the F84 is limited to 10mhz).

I know this MicroChip employee well, and he tells me MicroChip keeps 75%
of there dates. Not sure on this, but I think his April date is good.

873 looks good, although I notice it has a 10 bit A/D in it (the C73 had a
8bit).
This is good and you can always toss away the lower two bits if you don't
need them to remain compatible with the old MIM/MIC-E code.

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48. [picsig] Re: Providing GPS Power Source

From: Steve Dimse K4HG <k4hg@tapr.org>
Date: Wed, 3 Mar 1999 18:47:17 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-8748-1999.03.03-17.49.24--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On 3/3/99 5:27 PM Mark Grennan (mgrennan@fleming.com) wrote:

>I know the software could be changed to handel this in the PIC.

You need a hardware change as well, the way it is wired now the PTT

signal will not pass through D6.

>Would these few ms loss of transmit bother the receiver?
>
I'd guess it would not bother the receiver at all. The problem would
probably be with your transmitter. When you let off the Mic key, the
transceiver unkeys, and the PLL begins to lock to the rx frequency. How
long this takes is very dependent on the radio. I'd guess that even a
millisecond of a lifted ptt line would be enough to unsettle the PLL, and
that this is also going be very dependent on the specific radio. Only one
way to find out...

>What is used on the repeater to pic-up the APRS burst anyway?
>
Usually the repeater audio is fed to a TNC at the site.

Steve K4HG

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49. [picsig] Re: Providing GPS Power Source

From: Bill Vodall <Vodall@bigsky.com>
Date: Wed, 03 Mar 1999 15:56:13 -0800
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-8751-1999.03.03-17.57.23--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>
>>>Actually, they are all GPS-35 LP (low power) in 3 flavors:
>>>GPS-35-LVC
>>>GPS-35-LVS
>>>GPS-35-HVS

No GPS-35-HVC???

>>>

Looks like I'm going to be on the phone to the Garmin Aviation order
desk in the morning getting a GPS-35-LVC for the PIC-E.

Now what appropriately sized rig for the setup.   The Alinco 2 meter
tiny HT comes to mind.   Despite the power saver cycling, it should still
work as a basic packet transmitter with some carrier sense capability.
Any other suggestions?   Low power, low weight and small size are
critical here.

Bill WA7NWP

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50. [picsig] Re: Providing GPS Power Source

From: "Steven R. Bible" <srbible@gate.net>
Date: Wed, 03 Mar 1999 19:01:08 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-8752-1999.03.03-17.59.39--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>>I've been in negotiation with Garmin for TAPR to sell the GPS35. The
>>question is which version? I asked on the HTAPRS list and received no
>>replies.
>
>
>All GPS-35 receivers will run on 6 volts. This is handy for reprogramming
>the flash ram for the firmware. The GPS-35 sells for $149.00 from Garmin
>direct. Would TAPR beat that?

Brent, this does not help answer the question! :-)

In the case of the -LVS you _must_ provide a regulated power source (+5V).
The benefit of the -LVS over the -HVS is that it draws way less current.
The disadvantage of the -LVS is the added cost/complexity of adding the
regulator. Now, if the PIC-E were to have a beefier voltage regulator (as
mentioned on the list) to power a GPS receiver (such as the Tripmate or
GPS35) we'd be golden. However, in order for TAPR to carry the GPS35, we'd

like to offer the model most people will use.

>They really do still make the 35-PC? This is nice in that it has the
>connectors in place, but limits the flexibility of the receiver. The other
>3 variants come with bare wires. I put an RJ-45 connector on the end of the
>cable to simplify the connection to my several configurations where I use
>the 35. The non-PC versions has dual serial ports, a power control line,
>and 1-PPS output.

Again, yes they do. The disadvantage of the -PC is that it draws more
current than the -LVS, but already has the regulator and connects built on.
 You do not have 2 serial ports (meaning you're unable to apply DGPS
corrections) and you do not have access to the power down line.

 - Steve
 (n7hpr@tapr.org)
 (n7hpr@amsat.org)

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51. [picsig] Re: Providing GPS Power Source

From: "Steven R. Bible" <srbible@gate.net>
Date: Wed, 03 Mar 1999 19:13:22 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-8754-1999.03.03-18.11.56--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 03:56 PM 3/3/99 -0800, you wrote:
>
>>
>>>>Actually, they are all GPS-35 LP (low power) in 3 flavors:
>>>>GPS-35-LVC
>>>>GPS-35-LVS
>>>>GPS-35-HVS
>
>No GPS-35-HVC???
>
>>>>
>
>Looks like I'm going to be on the phone to the Garmin Aviation order
>desk in the morning getting a GPS-35-LVC for the PIC-E.

Bill, are you sure you want the CMOS levels for the serial port?

>Now what appropriately sized rig for the setup.   The Alinco 2 meter
>tiny HT comes to mind.   Despite the power saver cycling, it should still
>work as a basic packet transmitter with some carrier sense capability.
>Any other suggestions?   Low power, low weight and small size are
>critical here.

Then just up the TXdelay value to wake up the transmitter.

 - Steve
 (n7hpr@tapr.org)
 (n7hpr@amsat.org)

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52. [picsig] Re: Providing GPS Power Source

From: Bill Vodall <Vodall@bigsky.com>
Date: Wed, 03 Mar 1999 17:04:54 -0800
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-8768-1999.03.03-19.06.06--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>>
>>Looks like I'm going to be on the phone to the Garmin Aviation order
>>desk in the morning getting a GPS-35-LVC for the PIC-E.
>
>Bill, are you sure you want the CMOS levels for the serial port?

>

That should let it talk direct to the 16F84 on the Pic-E. A couple
passive components for some static protection wouldn't hurt.   I'm
assuming that getting rid of the RS-232 interface will cut down on
some components and power consumption. It shouldn't be needed for
a dedicated connection with minimal distance (6..12")
between GPS and TNC.

This will be a plastic "lunch box" with one (antenna) or maybe two
(antenna and 12v in to charge battery) connectors. For the bicycle,
backpack or kayak...

Bill

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53. [picsig] Re: Providing GPS Power Source

From: John Hansen <hansen@del.cs.fredonia.edu>
Date: Wed, 03 Mar 1999 20:35:17 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-8774-1999.03.03-19.39.07--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 03:56 PM 3/3/99 -0800, you wrote:

>Now what appropriately sized rig for the setup.   The Alinco 2 meter
>tiny HT comes to mind.   Despite the power saver cycling, it should still
>work as a basic packet transmitter with some carrier sense capability.
>Any other suggestions?

Do take a look at the Kantronics $79 pc board xmtr. It's between 1 and 2
watts (much more than the Alinco) and comes on a PC board that could be
built into the same case as the PIC-E. It comes crytaled for144.39.

John, W2FS

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54. [picsig] Re: Providing GPS Power Source

From: Bill Vodall <Vodall@bigsky.com>
Date: Wed, 03 Mar 1999 18:17:31 -0800
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-8785-1999.03.03-20.18.47--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>
>Do take a look at the Kantronics $79 pc board xmtr. It's between 1 and 2
>watts (much more than the Alinco) and comes on a PC board that could be
>built into the same case as the PIC-E. It comes crytaled for144.39.
>
>John, W2FS

It's almost ideal..   I'm just having trouble convincing myself that
a full time hidden transmitter (no receiver for on channel carrier detect)
is a good thing.   Doubling the transmit cycles would help me get out, and
the low power shouldn't interfere with too many existing systems..
But still.....   Packet suffers so badly from hidden transmitters I
hate to consciously add another.

Bill WA7NWP

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55. [picsig] Re: Providing GPS Power Source

From: John Rauch <johnr@cycat.com>
Date: Thu, 04 Mar 1999 00:40:59 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-8818-1999.03.03-23.44.55--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

My vote is for the GPS-35-LVC. Why? It can be used anywhere with power
levels that are about 1/8 of the HVS version, or the PC. For twelve volt
operation..... a simple voltage reg can be added, with a zener for
overvoltage protection.

John

John Rauch
Control Operator
   for Amateur Radio Station
      N4YXS
c/o 1450 West Lake Brantley Road
    Longwood, Florida 32779-4766
(407)869-1450, (407)869-6658 Fax
Lat. 28 41.128, Lon 081 26.155
Member - Central Fla. DX Association

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56. [picsig] Re: Providing GPS Power Source

From: "Brent Hildebrand" <bhildebrand@earthlink.net>
Date: Wed, 3 Mar 1999 21:59:29 -0800
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-8830-1999.03.04-00.03.31--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>My vote is for the GPS-35-LVC. Why? It can be used anywhere with power
>levels that are about 1/8 of the HVS version, or the PC. For twelve volt
>operation..... a simple voltage reg can be added, with a zener for
>overvoltage protection.
>
>John

Power levels 1/8th the HVS?

Here is a snippet from the Manual:

1.4.3 Electrical Characteristics

1) Input voltage: +3.6VDC to 6.0VDC regulated, 150mV ripple -LVx versions.
+6.0VDC to 40VDC unregulated -HVx version.

2) Input current: 120 mA typical 140 mA max -LVx versions, 20 mA while in
power down. 870mW typical 1000mW max -HVx version, 300uA while in power
down.

I read this like this:
LVx: Let the input voltage be 5 volts, typical current is 120 mA, thus the
power is .6 watts. In power down, it is .1 watt (5 x .02 amps)

HVS: Let the input voltage be 12 volts: Typical power is .87 watts, power
down is (12 x .0003) = .0036 watts.

Lets compare them using the same voltage, 6 volts.
LVx: (6 x .120) = .72
HVS: .870 typical, not much difference.

Power down:
LVx: (6 x .02) = .12 watts
HVS: (6 x .0003) = .0018 watts

There is not much difference in power consumption. Both HVS and LVx
variants are GPS-35LP where LP = low power. Both provide fairly low power
consumption. Did I do my math wrong? The HVS provides a nice simple
installation without any other magic. More, plug and play, as it were.
Brent KH2Z

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57. [picsig] Suggestion for PIC-E

From: Darryl Smith <vk2tds@ozemail.com.au>
Date: Thu, 04 Mar 1999 20:10:52 +1100
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-8850-1999.03.04-04.45.51--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

My PIC-E arrived air mail from the US tuesday, and I have not had a chance to build it yet. But my suggestions are

a) Make it so you can have the programmer plugged in at the same time you have the rest of the unit is plugged in.

b) Have some expansion - Like about 8 bits of digital Input. A single shift register IC should work here. That way we can do our own MIC-E compatible unit.

c) Have an expansion for the DS1620 digital temperature IC's (The TO-92 Variety).

d) Have a board that is a cut down version that is sold without parts or programmer that can be used so that we can produce cheap designs for our local radio clubs. If I do a software design, I need to make up my own board at the moment

e) Have TAPR selling the spare parts such as PIC and MODEM IC in quantities of 5.

Just my thoughts....

Darryl VK2TDS
Sydney, Australia

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58. [picsig] Re: Providing GPS Power Source

From: "Steven R. Bible" <srbible@gate.net>
Date: Thu, 04 Mar 1999 07:25:25 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-8859-1999.03.04-06.23.54--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

John, becareful, the -LVC is not only the non-regulated low power version, but the "C" in the part number says that the serial lines are CMOS levels. The -LVS is RS-232 levels.

Brent, my argument to you is that there are much better regulators out there that can make the -LVS version draw less current that the -LVH. I always like to design my equipment to work off batteries were appropriate. The regulator chosen by Garmin for the -HVS is the culprit in raising the power consumption.

- Steve N7HPR

At 09:59 PM 3/3/99 -0800, you wrote:
>>My vote is for the GPS-35-LVC. Why? It can be used anywhere with power
>>levels that are about 1/8 of the HVS version, or the PC. For twelve volt
>>operation..... a simple voltage reg can be added, with a zener for
>>overvoltage protection.
>>
>>John
>
>
>Power levels 1/8th the HVS?
>
>Here is a snippet from the Manual:
>
>1.4.3 Electrical Characteristics
>
>1) Input voltage: +3.6VDC to 6.0VDC regulated, 150mV ripple -LVx versions.
>+6.0VDC to 40VDC unregulated -HVx version.
>
>2) Input current: 120 mA typical 140 mA max -LVx versions, 20 mA while in

>power down. 870mW typical 1000mW max -HVx version, 300uA while in power
>down.
>
>
>I read this like this:
>LVx: Let the input voltage be 5 volts, typical current is 120 mA, thus the
>power is .6 watts. In power down, it is .1 watt (5 x .02 amps)
>
>HVS: Let the input voltage be 12 volts: Typical power is .87 watts, power
>down is (12 x .0003) = .0036 watts.
>
>Lets compare them using the same voltage, 6 volts.
>LVx: (6 x .120) = .72
>HVS: .870 typical, not much difference.
>
>Power down:
>LVx: (6 x .02) = .12 watts
>HVS: (6 x .0003) = .0018 watts
>
>There is not much difference in power consumption. Both HVS and LVx
>variants are GPS-35LP where LP = low power. Both provide fairly low power
>consumption. Did I do my math wrong? The HVS provides a nice simple
>installation without any other magic. More, plug and play, as it were.
>Brent KH2Z
>
>
>---
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>
>
>
 - Steve
 (n7hpr@tapr.org)
 (n7hpr@amsat.org)

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59. [picsig] Re: Providing GPS Power Source

From: "Steven R. Bible" <srbible@gate.net>
Date: Thu, 04 Mar 1999 10:12:34 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-8892-1999.03.04-09.16.15--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 07:25 AM 3/4/99 -0500, you wrote:
>John, becareful, the -LVC is not only the non-regulated low power version,
>but the "C" in the part number says that the serial lines are CMOS levels.
>The -LVS is RS-232 levels.
>
>Brent, my argument to you is that there are much better regulators out
>there that can make the -LVS version draw less current that the -LVH. I
                                                                ^^^^
                                            Opps, I ment to say -HVS

>always like to design my equipment to work off batteries were appropriate.
>The regulator chosen by Garmin for the -HVS is the culprit in raising the
>power consumption.
>
>- Steve N7HPR
>
>
>At 09:59 PM 3/3/99 -0800, you wrote:
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>>>operation..... a simple voltage reg can be added, with a zener for
>>>overvoltage protection.
>>>
>>>John
>>
>>
>>Power levels 1/8th the HVS?
>>
>>Here is a snippet from the Manual:
>>
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>>
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>>+6.0VDC to 40VDC unregulated -HVx version.
>>
>>2) Input current: 120 mA typical 140 mA max -LVx versions, 20 mA while in
>>power down. 870mW typical 1000mW max -HVx version, 300uA while in power
>>down.
>>
>>
>>I read this like this:
>>LVx: Let the input voltage be 5 volts, typical current is 120 mA, thus the
>>power is .6 watts. In power down, it is .1 watt (5 x .02 amps)
>>
>>HVS: Let the input voltage be 12 volts: Typical power is .87 watts, power
>>down is (12 x .0003) = .0036 watts.
>>
>>Lets compare them using the same voltage, 6 volts.
>>LVx: (6 x .120) = .72
>>HVS: .870 typical, not much difference.
>>
>>Power down:
>>LVx: (6 x .02) = .12 watts
>>HVS: (6 x .0003) = .0018 watts
>>
>>There is not much difference in power consumption. Both HVS and LVx
>>variants are GPS-35LP where LP = low power. Both provide fairly low power
>>consumption. Did I do my math wrong? The HVS provides a nice simple
>>installation without any other magic. More, plug and play, as it were.
>>Brent KH2Z
>>
>>
>>---
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>>To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org
>>
>>
>>
> - Steve
> (n7hpr@tapr.org)
> (n7hpr@amsat.org)
>
>
>---
>You are currently subscribed to picsig as: srbible@gate.net
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>
>
>
- Steve
 (n7hpr@tapr.org)
 (n7hpr@amsat.org)

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60. [picsig] Re: Providing GPS Power Source

From: "Brent Hildebrand" <bhildebrand@earthlink.net>
Date: Thu, 4 Mar 1999 08:44:54 -0800
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-8916-1999.03.04-10.44.19--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>John, becareful, the -LVC is not only the non-regulated low power version,
>but the "C" in the part number says that the serial lines are CMOS levels.
>The -LVS is RS-232 levels.
>
>Brent, my argument to you is that there are much better regulators out
>there that can make the -LVS version draw less current that the -LVH. I
>always like to design my equipment to work off batteries were appropriate.
>The regulator chosen by Garmin for the -HVS is the culprit in raising the
>power consumption.
>

For battery operation (non - automobile or airplane), I'd also choose
the -LVS. But I suspect that the majority of people would use the GPS in a
car where 12 volts is easy to find. In such case, the -HVS makes for simple

installation. How this would apply to Pic-E operation, is open. Where will the Pic-E be used most often? That remains to be seen.

BH

You are currently subscribed to picsig as: lyris.picsig@tapr.org
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61. [picsig] Construction of the PIC-E

From: "Mark Grimes" <Mark_Grimes@compuserve.com>
Date: Thu, 4 Mar 1999 15:34:6
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-8986-1999.03.04-15.35.48--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I got my PIC-E kit last night and was able to assemble it without difficulty, except I need to get my bifocals upgraded. I also had some resistors left over. The only step left out of the instructions is to clean the board when you are done soldering. I use isopropol alchol and a small brush with the bristles cut short. This prevents corrosion later and makes the board look real good.

None of my VHF radios have the RJ-45 connectors so I left them out. Instead, I used the 16 pin header to connect the audio cable from my FT-470 HT. All the signals are there and I intend to use the radio dedicated to APRS for now.

I loaded the diagnostic program and it worked as advertised. I then loaded the software provided by John Hansen, W2FS and it worked perfectly the second time. I didn□t understand that the symbol field was in hex at first. I asked for MIC ENC and got Gateway. I knew that was wrong.

The positions reported are not working properly, but this may be a problem with my GPS-III. It was telling me repeatedly that the batteries were low. They aren□t. I didn□t adjust the tx level, either.

I□m very impressed that the kit went together so easily and worked the first time. Ramsey, MFJ, Rainbow and the others should take lessons from TAPR.

Mark, WA0TOP

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62. [picsig] Status of PIC-E project?

From: Duncan Orthner <orthner@idirect.com>
Date: Sat, 06 Mar 1999 15:08:11 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-9311-1999.03.06-14.10.04--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hello all,
          I'm new to this list but I'm familiar with PICs and other microcontrollers. What is the status of the PIC-E project? Is there any way I can order a kit or otherwise get my hands on one? Are there any other simple PIC based FSK modem designs floating around out there in the ether? My goal is to build a simple GPS interface for APRS purposes.

Cheers, Duncan

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63. [picsig] Re: Status of PIC-E project?

From: "Steven R. Bible" <srbible@gate.net>
Date: Sat, 06 Mar 1999 15:21:49 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-9313-1999.03.06-14.25.46--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 03:08 PM 3/6/99 -0500, you wrote:
>
>Hello all,
>   I'm new to this list but I'm familiar with PICs and other
>microcontrollers. What is the status of the PIC-E project? Is there any way
>I can order a kit or otherwise get my hands on one? Are there any other
>simple PIC based FSK modem designs floating around out there in the ether?
>My goal is to build a simple GPS interface for APRS purposes.

Hello Duncan,

Presently the first 50 PIC-E's have been sold and are now in the hands of
their builders. These first 50 represent an evaluation of the PIC-E to
determine any minor changes needed in the first run. So far a few minor
items have been identified and there have been no show stoppers.

In approximately two weeks the PIC-E development team will incorporate
those changes and make a production run of several hundred kits. The
timeline is to have these kits ready before Dayton.

The team would really like to hear from everyone, good and bad, so we can
move on the changes and get the parts ordered and kits built. Thanks to
those who have already posted their comments. They are much appreciated
and will help make the PIC-E a better product for you.

For those just joining in, the assembly manual, schematics, and software
are available on the ftp site:

   ftp://ftp.tapr.org/picsig/

look in the "docs" and "software" directories. Contributed PIC-E programs
can be uploaded to "uploads". Of course you are free to make your own web
pages. The goal is to stand on each other's shoulders and build a product
that is low-cost and fun.

- Steve
 (n7hpr@tapr.org)
 (n7hpr@amsat.org)

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

64. [picsig] Reducing pullup resistors

From: James Jefferson <jjeffers@deskmedia.com>
Date: Sat, 06 Mar 1999 19:46:26 -0600
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-9370-1999.03.06-19.47.53--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I was glancing at the PIC-Encoder schematic this afternoon and I noticed
many external pullup resistors are being used. From the looks of thins it
would be possible to use the internal PORT_B pullupss and cut down the the
part count a bit. Any reason why not too?

I put together a very simple demo using the PIC-E last night. I kludged
some code to read data from my weather station (www.phanderson.com) and
send a simple UI beacon every few minutes. I brought it to a club event and
people seemed rather interested! I'm going to clean up the code a little
bit tonight, then I might release it tommrow if there is any interested.

It might be nice to add four nylon standoffs (and screws) to the kit. It is
fairly common for a newbie to put a board down on top of the nice black
foam that comes with the kit =)

73's and keep tinkering!

-James Jefferson KB0THN
jjeffers@deskmedia.com
http://www.deskmedia.com/~jjeffers/

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65. [picsig] Re: Reducing pullup resistors

From: Jeff King <jeff@aerodata.net>
Date: Sat, 06 Mar 1999 21:12:00 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-9377-1999.03.06-20.05.38--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

James Jefferson wrote:

> I was glancing at the PIC-Encoder schematic this afternoon and I noticed
> many external pullup resistors are being used. From the looks of thins it
> would be possible to use the internal PORT_B pullupss and cut down the the
> part count a bit. Any reason why not too?

I noticed this even before the kit hit the street... I think this falls in the realm
of "major" change... then again, just don't put the pull-ups in (and turn the pull-ups
on in the code). Going a bit farther, you could reassign some of the I/O so it makes more sense from a software perspective, eliminate 2 or three resistors AND get at least two more pins of I/O.... enough for one of those I2C FRAM devices...

Get your razor knife out James.

-Jeff

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66. [picsig] Re: Reducing pullup resistors

From: "Mark Grennan" <mgrennan@fleming.com>
Date: Sun, 7 Mar 1999 8:16:49
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-9436-1999.03.07-08.18.37--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Please describe more.
What resisters would you leave out?
Why would this give two more limes of IO?

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67. [picsig] Re: Reducing pullup resistors

From: James Jefferson <jjeffers@deskmedia.com>
Date: Sun, 07 Mar 1999 10:38:44 -0600
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-9471-1999.03.07-10.40.15--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Mark,

there are already two free IO lines for the taking. RB6 and RB7 are only used for programming. With suitable limiting resistors RB6 and RB7 could be used for both programming and normal IO operations. A 8 pin DIP socket could added to the board to allow any I2C EEPROM to be used. All small EEPROM's follow a standard pinout, so nothing would need to be set in stone.

The PIC16F84 incorporates weak pullup resistors on it's PORT_B. There is a configuration bit to turn on the pullups. Using CCS 'C' you can do a PORT_B_PULLUPS(flag) to toggle that bit. By turning on internal pullups resistors R10, R17, and R19 can be eliminated. Not as great of a parts saving as I initalially thought. However glancing at the schematic it seems port_b could consist of:

RB7 Programming / possibly I2C EEPROM
RB6 Programming / possibly I2C EEPROM
RB5 SW1
RB4 PTT out
RB3 M0
RB2 M1
RB1 RXD
RB0 Serial from GPS (or computer)

RB0 has a interrupt on it, that is why I put the serial data in on that pin.

In summary the only serious changes that I would bother with are the
addition of the limiting resistors to allow RB6 and RB7 to be used with an
EEPROM and moving the serial in to the interrupt pin. Any thoughts?

-James Jefferson KB0THN
jjeffers@deskmedia.com
http://www.deskmedia.com/~jjeffers/

Mark wrote:
>Please describe more.
>What resisters would you leave out?
>Why would this give two more limes of IO?

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68. [picsig] Re: Reducing pullup resistors

From: Jeff King <jeff@aerodata.net>
Date: Sun, 07 Mar 1999 13:08:21 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-9481-1999.03.07-12.02.01--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

James Jefferson wrote:

> saving as I initalially thought. However glancing at the schematic it seems
> port_b could consist of:
>
> RB7   Programming / possibly I2C EEPROM
> RB6   Programming / possibly I2C EEPROM
> RB5   SW1
> RB4   PTT out
> RB3   M0
> RB2   M1
> RB1   RXD
> RB0   Serial from GPS (or computer)
>
> RB0 has a interrupt on it, that is why I put the serial data in on that pin.

I wrote some GPS parsing code for RB0 (On my earlier wirewrapped PIC-E)
and was getting about 0.5 second of free time (or so....didn't measure it) after

servicing the interrupt request and stuffing the GPS data into the proper
variables.
Still a pain not having a real UART but using RB0 at least you don't have to
wait
around in a poll loop. You don't have to implement interrupts on RB0
to use the existing code base, so I see no reason not to change it. At least
you'd have
the option later of using interrupts if you so chose.

On RB6 and RB7, I don't think the programming voltages go above +5volts
so I don't think you would need current limiting resistors. Thats just on MCLR
were they go above +5Volts..... but I could be mistaken as I use mostly OTP
parts.
Now one issue with I2C parts would be speed..... with the weak pullups on portB
that might limit you. Most I2C parts I have used like 2.7K or so for the FAST
I2C
spec. You either could run your I2C part slower (to take advantage of the portB

pullup) or put a jumper in if the pullups interfered with your ISP circuit...

Now, don't forget about the interrupt on change for RB4-RB7. Anything that
might be happier with a interrupt serviced routine (such as RXD) you might
consider putting on RB4-RB7.

-Jeff

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69. [picsig] New Motorola Flash Part...

From: "Sadowski, Allan" <allan.sadowski@ncshp.org>
Date: Sun, 7 Mar 1999 13:10:00 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-9482-1999.03.07-12.10.35--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Though the PIC is certainly a nice part... the recent article (in Circuit
Cellar)
on the new MOTOROLA Flash part is kind of interesting... for $5 per part...

20 Kilo-bytes of flash memory
512 bytes ram
SPI for those 2-3 line serial parts
UART
2timers
8 cahnnel A/D
brown out reset
watchdog timer
All static design - low power consumption...

64 k of memory space... LOTS of I/O pins - some with healthy drive/sink and
configurable pullups.....

Pretty neat part...

AH6LS

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70. [picsig] Re: Construction of the PIC-E

From: "Mark Grennan" <mgrennan@fleming.com>
Date: Sun, 7 Mar 1999 14:51:51
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-9505-1999.03.07-14.53.41--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On 03/04/99, ""Mark Grimes" <Mark_Grimes@compuserve.com>" wrote:

 > I loaded the diagnostic program and it worked as advertised. I then
loaded
 > the software provided by John Hansen, W2FS and it worked perfectly the
 > second time. I didn?t understand that the symbol field was in hex at
 > first. I asked for MIC ENC and got Gateway. I knew that was wrong.

So, Maybey I have a hardware problem. I havn't been able to get gps-e-2 to
work. I don't seem to be able to key it.

I can get Byon Garrabrant's pice090 software to work. I can't change the
options because I don't have his compiler. I'm using Linux.

Mark, WA0TOP

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71. [picsig] Need one more pin on JP3

From: "Mark Grennan" <mgrennan@fleming.com>
Date: Sun, 7 Mar 1999 15:5:57
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-9507-1999.03.07-15.07.50--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I findly got around to wiring up my HT (Icom IC-T7A and HTX-202). I got it
working with one oops in the design.

The docs talk about handie-talkie interfacing and the Figure 3 is nice but
it doesn't show how you are going to get the PTT and MIC_AUDIO to the same
pin. I found a work around by wire wrapping all three pins on J5, J6 and
J4 together.

A beter way would be to add another ping to JP3 so when you un-jumper JP3-1
to JP3-2 you can jumper JP3-1 to a pin going to MIC_AUDIO from the MX614.

Mark G. KD5AMB

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72. [picsig] Re: New Motorola Flash Part...

From: "Steven R. Bible" <srbible@gate.net>
Date: Sun, 07 Mar 1999 19:01:00 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-9526-1999.03.07-18.00.03--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I read it too. Very nice chip. Plus this is the center of the Circuit
Cellar Design 1999 contest. Maybe we should do a PIC-E version and rake in
the $5000 grand prize!

Now, where to buy the darn thing. I see from the Circuit Cellar web pages
four distributors to order from. I haven't called yet, has anyone else?
Is the onesy price $5.00? I doubt it.

- Steve

At 01:10 PM 3/7/99 -0500, you wrote:
>Though the PIC is certainly a nice part... the recent article (in Circuit
>Cellar)
>on the new MOTOROLA Flash part is kind of interesting... for $5 per part...
>
>20 Kilo-bytes of flash memory
>512 bytes ram
>SPI for those 2-3 line serial parts
>UART
>2timers
>8 cahnnel A/D
>brown out reset
>watchdog timer
>All static design - low power consumption...
>
>64 k of memory space... LOTS of I/O pins - some with healthy drive/sink and
>configurable pullups.....
>
>Pretty neat part...
>
>AH6LS
>
>---
>You are currently subscribed to picsig as: srbible@gate.net
>To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org
>
>
>

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73. [picsig] Re: Construction of the PIC-E

From: "Steven R. Bible" <srbible@gate.net>
Date: Sun, 07 Mar 1999 19:03:19 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-9527-1999.03.07-18.02.24--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>I can get Byon Garrabrant's pice090 software to work. I can't change the
>options because I don't have his compiler. I'm using Linux.

Mark, then get the DOS version of the Microchip assembler and run it under
Linux DOSEMU.

If you want, make the changes to the options file, email it to me, and I'll
assemble it and email you the binaries.

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74. [picsig] Re: Reducing pullup resistors

From: "Steven R. Bible" <srbible@gate.net>
Date: Sun, 07 Mar 1999 19:26:32 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-9530-1999.03.07-18.25.57--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 10:38 AM 3/7/99 -0600, you wrote:
>Mark,
>
>there are already two free IO lines for the taking. RB6 and RB7 are only
>used for programming. With suitable limiting resistors RB6 and RB7 could be
>used for both programming and normal IO operations.

We were conservative with RB6 and RB7 because we depend so much on the serial port to supply power to the programming portion of the PIC-E. This is also the reason why we put in JP4 to remove power to the rest of the PIC-E during programming. Looks like that was a good decision as several have to put the jumper in order to program their PIC.

So far only one PIC-E builder found a PIC16F84 that wouldn't program with or without JP4. I sent him a new PIC and he sent his to me. I verified the same behavior. I then programmed the PIC in my PICSTART PLUS and it programmed. Obviously a manufacturing tolerance issue.

The PIC-E programmer is not operating by the rules set out by Microchip. It is a design compromize. So far it's working pretty good. Anyone else have programming problems?

> A 8 pin DIP socket
>could added to the board to allow any I2C EEPROM to be used. All small
>EEPROM's follow a standard pinout, so nothing would need to be set in stone.

This is a great idea. The only limitation is pins (as is being discussed) and room the PIC-E PCB. With the new PICs coming out, the I2C EEPROM may not be necessary. However, there are a lot of other I2C chips out there of various functions that one could plug in for their particular application.

>The PIC16F84 incorporates weak pullup resistors on it's PORT_B. There is a
>configuration bit to turn on the pullups. Using CCS 'C' you can do a
>PORT_B_PULLUPS(flag) to toggle that bit. By turning on internal pullups
>resistors R10, R17, and R19 can be eliminated. Not as great of a parts
>saving as I initalially thought. However glancing at the schematic it seems
>port_b could consist of:
>
>RB7 Programming / possibly I2C EEPROM
>RB6 Programming / possibly I2C EEPROM
>RB5 SW1
>RB4 PTT out
>RB3 M0
>RB2 M1
>RB1 RXD
>RB0 Serial from GPS (or computer)

We were vagely aware of the port b pull-ups when we designed the PIC-E. Now you've made us smarter.

>RB0 has a interrupt on it, that is why I put the serial data in on that pin.

We thought of this for use as an interrupt, not so much for serial data. I programmed a PIC some time ago to interrupt on change for serial input. It did not work. I learned from a Microchip FAE that there's a 1024 clock cycle delay (documented in the data sheets) that upon sensing the change in STOP to START bit, the clcok cycle start up time would throw off my bit banging and the serial input would be unreliable. I was also trying to make a low power project in this design, trying to incorporate SLEEP and wakeup upon interrupt. It's neat, you can power a PIC from the serial port.

I'd like to see how you programmed a serial input on the RB0 port.

>In summary the only serious changes that I would bother with are the
>addition of the limiting resistors to allow RB6 and RB7 to be used with an
>EEPROM and moving the serial in to the interrupt pin. Any thoughts?

First, we would like to see this prototyped and working. As I mentined

above, we were conservative and didn't want to jepordize the design in
something not proven. If anyone has a design that they no kidding knows
works, we'd be gald to incorporate it into the PIC-E and hopefully a PIC-E II.

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75. [picsig] On-board programmer even required?

From: James Jefferson <jjeffers@deskmedia.com>
Date: Sun, 07 Mar 1999 18:48:25 -0600
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-9533-1999.03.07-18.49.57--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>The PIC-E programmer is not operating by the rules set out by Microchip.
>It is a design compromize. So far it's working pretty good. Anyone else
>have programming problems?

The internal 64 byte EEPROM does not program correctly for me. I popped the
chip out and programmed it in my normal programmer and all was well. I
haven't tested this on multiple computers, but I will sometime soon.

Is the internal programmer even a high priority item? By eliminating the
internal programmer we could get rid off many parts (resistors, diodes,
DB9F, JP4, etc) and possibly even reduce board size, as well as free up a
two IO lines. This is the route that I would be in favor of. Simply ship a
small programmer with the kit. A seperate ludi programmer could be made for
less then a dollar. If we need a board design I could whip something up in
a couple of hours. In fact John Hansen's circuit that he published in QST
would be fine, with a few minor modifactions.

I understand that this strays away from the philosphy of an all-in-one
devolpement setup, but I think the advantages outway the disadvantages.
When the project is all done then the user even has a simple method of
jumping off into playing with PIC's -- not a bad prospect at all =)

What do y'all think?

-James Jefferson KB0THN
jjeffers@deskmedia.com
http://www.deskmedia.com/~jjeffers/

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76. [picsig] Re: Reducing pullup resistors

From: Jeff King <jeff@aerodata.net>
Date: Sun, 07 Mar 1999 21:05:11 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-9541-1999.03.07-19.59.08--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

"Steven R. Bible" wrote:

>
> >RB0 has a interrupt on it, that is why I put the serial data in on that pin.
>
> I'd like to see how you programmed a serial input on the RB0 port.

```
#use i2c(master,sda=PIN_A1,scl=PIN_A0, FAST)
#use rs232(baud=4800 ,xmit=PIN_A3,rcv=PIN_B0,INVERT)

byte data;
boolean  new_data_received;

#int_ext
void serial_isr()
{
 data=getc();
 new_data_received = TRUE;
}

main()
{
```

```
 ext_int_edge(l_to_h);
 enable_interrupts(EXT_INT);
 enable_interrupts(GLOBAL);

while(TRUE)
    {
    // Main routine
    }
}
```

I've actually have my GPS parsing inside the serial isr routine and just set the
flag
when I have a new GPS data fix the is valid. But this example shows just a simple
return of the serial byte.

-Jeff

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77. [picsig] Re: New Motorola Flash Part...

From: "Art Alto" <aalto@linkline.com>
Date: Sun, 7 Mar 1999 19:46:34 -0800
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-9549-1999.03.07-21.48.45--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

So, what's the Motorola part no. for those of us who don't have a copy of
the magazine?

Art Alto N6VIG

-----Original Message-----
From: Sadowski, Allan <allan.sadowski@ncshp.org>
To: TAPR PIC Development Special Interest Group <picsig@lists.tapr.org>
Date: Sunday, March 07, 1999 10:05 AM
Subject: [picsig] New Motorola Flash Part...

>Though the PIC is certainly a nice part... the recent article (in Circuit
>Cellar)
>on the new MOTOROLA Flash part is kind of interesting... for $5 per
part...

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

78. [picsig] Re: New Motorola Flash Part...

From: "Art Alto" <aalto@linkline.com>
Date: Sun, 7 Mar 1999 20:01:00 -0800
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-9554-1999.03.07-22.03.12--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Never mind, I found it: 68HC908GP20
http://mot2.mot-sps.com/csic/whatsnew/whatsnew.htm

Art
-----Original Message-----
From: Art Alto <aalto@linkline.com>
To: TAPR PIC Development Special Interest Group <picsig@lists.tapr.org>
Date: Sunday, March 07, 1999 7:43 PM
Subject: [picsig] Re: New Motorola Flash Part...

>So, what's the Motorola part no. for those of us who don't have a copy of
>the magazine?
>
>Art Alto N6VIG
>
>-----Original Message-----
>From: Sadowski, Allan <allan.sadowski@ncshp.org>
>To: TAPR PIC Development Special Interest Group <picsig@lists.tapr.org>
>Date: Sunday, March 07, 1999 10:05 AM

>Subject: [picsig] New Motorola Flash Part...
>
>
>>Though the PIC is certainly a nice part... the recent article (in Circuit
>>Cellar)
>>on the new MOTOROLA Flash part is kind of interesting... for $5 per
>part...
>
>
>
>---
>You are currently subscribed to picsig as: aalto@linkline.com
>To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org
>
>

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79. [picsig] Incorrect Position Reports

From: "Mark Grimes" <Mark_Grimes@compuserve.com>
Date: Mon, 8 Mar 1999 8:30:39
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-9598-1999.03.08-08.32.32--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I'fe been using the PIC-E with the pic-e-2 software now for several days.
It works correctly some of the time, but there are incorrect reports
intersperced in the data stream. I have rechecked all the solder and
looked at all the pins on the PIC with a scope. All the inputs and
outputs are working. The Channel Busy light comes on when there is audio
in. The PTT light comes on and it transmits every 60 seconds like I set in
the s/w. The two switches work as advertised. I get the two different
setups. The Fix Valid light starts out off when I power up the PIC-E, and
then comes on when I power up the GPS. I set the TX audio level. The
signal sounds right off the air. When I get into the local WIDEs, they
retransmit the report correctly.

The only signal I'm worried about is the GPS data in on pin 17. I have 0
volts low (logic high) and 6 volts for a high (logic low) out of the
GPS-III, but I have 0 volts low (logic high) and 1.6 volts for a high
(logic low) after R2 on pin 17. This is marginal I think.

Below is the data stream I got with the PIC-E operating on the bench with
the GPS-III set to Simulate mode which holds and reports the last known
position. The reports are 60 seconds apart. I believe the sx4x6r line is
the correct report. The icon appears in the right place. When the other
lines come in, no icon appears on the US map, and the track runs off into
the Atlantic Ocean somewhere.

I also got a phone call Friday night and learned that it had sent an
Emergency status. Sorry to all I woke up.

I've found things hard to fix when the're working.

Mark Grimes, WA0TOP

WA0TOP-12>sx4x6r,RELAY,WIDE,WIDE:`v9\l#X/
WA0TOP-12>DT   ,,RELAY,WIDE,WIDE:`#(l /
WA0TOP-12>sx4x6r,RELAY,WIDE,WIDE:`v9\l#X/
WA0TOP-12>sx4x6r,RELAY,WIDE,WIDE:`v9\l#X/
WA0TOP-12>sx4x6r,RELAY,WIDE,WIDE:`v9\l#X/
WA0TOP-12>DT   ,,RELAY,WIDE,WIDE:`#(l /
WA0TOP-12>sx4x6r,RELAY,WIDE,WIDE:`v9\l#X/
WA0TOP-12>sx4x6r,RELAY,WIDE,WIDE:`v9\l#X/
WA0TOP-12>DT   ,,RELAY,WIDE,WIDE:`#(l /
WA0TOP-12>sx4x6r,RELAY,WIDE,WIDE:`v9\l#X/
WA0TOP-12>sx4x6r,RELAY,WIDE,WIDE:`v9\l#X/
WA0TOP-12>DT   ,,RELAY,WIDE,WIDE:`#(l /
WA0TOP-12>sx4x6r,RELAY,WIDE,WIDE:`v9\l#X/
WA0TOP-12>sx4x6r,RELAY,WIDE,WIDE:`v9\l#X/
WA0TOP-12>DT   ,,RELAY,WIDE,WIDE:`#(l /
WA0TOP-12>sx4x6r,RELAY,WIDE,WIDE:`v9\l#X/
WA0TOP-12>sx4x6r,RELAY,WIDE,WIDE:`v9\l#X/
WA0TOP-12>DT   ,,RELAY,WIDE,WIDE:`#(l /
WA0TOP-12>sx4x6r,RELAY,WIDE,WIDE:`v9\l#X/

```
WA0TOP-12>sx4x6r,RELAY,WIDE,WIDE:`v9\l#X/
WA0TOP-12>DT    ,,RELAY,WIDE,WIDE:`#(l /
WA0TOP-12>sx4x6r,RELAY,WIDE,WIDE:`v9\l#X/
WA0TOP-12>sx4x6r,RELAY,WIDE,WIDE:`v9\l#X/
WA0TOP-12>DT    ,,RELAY,WIDE,WIDE:`#(l /
WA0TOP-12>sx4x6r,RELAY,WIDE,WIDE:`v9\l#X/
WA0TOP-12>sx4x6r,RELAY,WIDE,WIDE:`v9\l#X/
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WA0TOP-12>sx4x6r,RELAY,WIDE,WIDE:`v9\l#X/
WA0TOP-12>sx4x6r,RELAY,WIDE,WIDE:`v9\l#X/
WA0TOP-12>DT    ,,RELAY,WIDE,WIDE:`#(l /
WA0TOP-12>sx4x6r,RELAY,WIDE,WIDE:`v9\l#X/
WA0TOP-12>sx4x6r,RELAY,WIDE,WIDE:`v9\l#X/
WA0TOP-12>sj1$,RELAY,WIDE,WIDE:`e$z/
WA0TOP-12>sx4x6r,RELAY,WIDE,WIDE:`v9\l#X/
WA0TOP-12>sj1$,RELAY,WIDE,WIDE:`e$z/
WA0TOP-12>sx4x6r,RELAY,WIDE,WIDE:`v9\l#X/
WA0TOP-12>sj1$,RELAY,WIDE,WIDE:`e$z/
WA0TOP-12>sx4x6r,RELAY,WIDE,WIDE:`v9\l#X/
WA0TOP-12>sj1$,RELAY,WIDE,WIDE:`e$z/
WA0TOP-12>sx4x6r,RELAY,WIDE,WIDE:`v9\l#X/
WA0TOP-12>sj1$,RELAY,WIDE,WIDE:`e$z/
WA0TOP-12>sx4x6r,RELAY,WIDE,WIDE:`v9\l#X/
WA0TOP-12>sj1$,RELAY,WIDE,WIDE:`e$z/
WA0TOP-12>sx4x6r,RELAY,WIDE,WIDE:`v9\l#X/
WA0TOP-12>sj1$,RELAY,WIDE,WIDE:`e$z/
WA0TOP-12>sx4x6r,RELAY,WIDE,WIDE:`v9\l#X/
WA0TOP-12>sx4x6r,RELAY,WIDE,WIDE:`v9\l#X/
WA0TOP-12>DT    ,,RELAY,WIDE,WIDE:`#(l /
WA0TOP-12>sx4x6r,RELAY,WIDE,WIDE:`v9\l#X/
WA0TOP-12>sx4x6r,RELAY,WIDE,WIDE:`v9\l#X/
WA0TOP-12>DT    ,,RELAY,WIDE,WIDE:`#(l /
WA0TOP-12>sx4x6r,RELAY,WIDE,WIDE:`v9\l#X/
WA0TOP-12>sx4x6r,RELAY,WIDE,WIDE:`v9\l#X/
WA0TOP-12>DT    ,,RELAY,WIDE,WIDE:`#(l /
WA0TOP-12>sx4x6r,RELAY,WIDE,WIDE:`v9\l#X/
WA0TOP-12>sx4x6r,RELAY,WIDE,WIDE:`v9\l#X/
WA0TOP-12>sj1$,RELAY,WIDE,WIDE:`e$z/
WA0TOP-12>sx4x6r,RELAY,WIDE,WIDE:`v9\l#X/
WA0TOP-12>sx4x6r,RELAY,WIDE,WIDE:`v9\l#X/
WA0TOP-12>DT    ,,RELAY,WIDE,WIDE:`#(l /
WA0TOP-12>sx4x6r,RELAY,WIDE,WIDE:`v9\l#X/
WA0TOP-12>sx4x6r,RELAY,WIDE,WIDE:`v9\l#X/
WA0TOP-12>DT    ,,RELAY,WIDE,WIDE:`#(l /
WA0TOP-12>sx4x6r,RELAY,WIDE,WIDE:`v9\l#X/
WA0TOP-12>sx4x6r,RELAY,WIDE,WIDE:`v9\l#X/
WA0TOP-12>sj1$,RELAY,WIDE,WIDE:`e$z/
WA0TOP-12>sx4x6r,RELAY,WIDE,WIDE:`v9\l#X/
WA0TOP-12>sx4x6r,RELAY,WIDE,WIDE:`v9\l#X/
WA0TOP-12>DT    ,,RELAY,WIDE,WIDE:`#(l /
WA0TOP-12>sx4x6r,RELAY,WIDE,WIDE:`v9\l#X/
WA0TOP-12>sx4x6r,RELAY,WIDE,WIDE:`v9\l#X/
WA0TOP-12>sj1$,RELAY,WIDE,WIDE:`e$z/
WA0TOP-12>sx4x6r,RELAY,WIDE,WIDE:`v9\l#X/
WA0TOP-12>sj1$,RELAY,WIDE,WIDE:`e$z/
WA0TOP-12>sx4x6r,RELAY,WIDE,WIDE:`v9\l#X/

---
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```

80. [picsig] Re: Incorrect Position Reports

```
From: Steve Dimse K4HG <k4hg@tapr.org>
Date: Mon, 8 Mar 1999 09:43:06 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-9600-1999.03.08-08.45.15--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain
```

On 3/8/99 8:30 AM Mark Grimes (Mark_Grimes@compuserve.com) wrote:

>Below is the data stream I got with the PIC-E operating on the bench with
>the GPS-III set to Simulate mode which holds and reports the last known
>position. The reports are 60 seconds apart. I believe the sx4x6r line is

>the correct report. The icon appears in the right place. When the other
>lines come in, no icon appears on the US map, and the track runs off into
>the Atlantic Ocean somewhere.
>
Well, there seem to be two separate problems. The first is that the
destination needs to be in upper case. John, are you sending it as lower
case? This violates the AX-25 spec, which only allows A-Z and 0-9 in a
callsign field. This tickles my memory, didn't this issue come up on the
development list a while back?

The second is the intermittant bad data. I suspect this is at least
partly caused by the dropping resistor. I jumpered mine out while working
with the output of the U-2000 wireless control head, which puts out 0-5
volts. If your unit is really putting out 6 volts, you probably still
should have a resistor there, but less than the present value. I'd try
that first and see if that clears up the problem.

Steve K4HG

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81. [picsig] Re: Incorrect Position Reports

From: John Hansen <hansen@fredonia.edu>
Date: Mon, 08 Mar 1999 09:54:16 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-9603-1999.03.08-08.53.57--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 08:30 AM 3/8/99 +0000, you wrote:
>
>The only signal I'm worried about is the GPS data in on pin 17. I have 0
>volts low (logic high) and 6 volts for a high (logic low) out of the
>GPS-III, but I have 0 volts low (logic high) and 1.6 volts for a high
>(logic low) after R2 on pin 17. This is marginal I think.
>

This does not sound right. The GPS is supposed to be producing RS-232 level
signals, which should be more like 10-12 volts. In fact, the 22K dropping
resistor in that line is designed to make sure the PIC sees a lot less than the
10-12 volts coming out of the GPS. 1.6 volts will not be enough to provide the
correct data to the PIC.   The first thing that I would do is check the RS-232
level signals coming out of the GPS when it is NOT hooked up to the PIC-E.
This way you can determine whether there is something wrong with the GPS III or
whether something on the PIC-E is loading the circuit to bring the voltage
down. If you are really only getting 6 volts out of the GPS III when it isn't
hooked up to anything, then there is something wrong with the GPS III. At that
point it might be worth trying another GPS, if you can borrow one. If the GPS
is producing an appropriate voltage when it isn't hooked up to anything, but it
drops to 6 volts when you connect it to the PIC-E, then there is something
wrong with your PIC-E. Recheck your wiring, especially for solder bridges, and
you might even compare the board against the schematic to make sure there
wasn't some manufacturing error (though this is unlikely). Also check the
component values to make sure they are correct. Have you made certain that the
tripmate jumpers are off?

Hope this helps.

John, W2FS

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82. [picsig] Development list?

From: Jeff King <jeff@aerodata.net>
Date: Mon, 08 Mar 1999 10:01:30 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-9604-1999.03.08-08.55.35--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Steve Dimse K4HG wrote:

>
> callsign field. This tickles my memory, didn't this issue come up on the
> development list a while back?

Not seeing instructions on TAPR.ORG, how does one become part of or

subscribe to the development list?

-Jeff

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83. [picsig] Re: Incorrect Position Reports

From: John Hansen <hansen@fredonia.edu>
Date: Mon, 08 Mar 1999 09:57:52 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-9605-1999.03.08-08.57.31--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 09:43 AM 3/8/99 -0500, you wrote:
>
>Well, there seem to be two separate problems. The first is that the
>destination needs to be in upper case. John, are you sending it as lower
>case?

The destination has coded values based on the position report from the GPS unit. It is done according to the MIC-E spec. If the data coming in from the GPS is not correct, it will, of course, result in the destination being bad. But the destination isn't a callsign in the usual sense. The Source and Path are forced to be uppercase by the GUI program that collects the values.

John, W2FS

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84. [picsig] Re: Development list?

From: Steve Dimse K4HG <k4hg@tapr.org>
Date: Mon, 8 Mar 1999 10:02:40 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-9607-1999.03.08-09.04.52--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On 3/8/99 10:01 AM Jeff King (jeff@aerodata.net) wrote:

>Not seeing instructions on TAPR.ORG, how does one become part of or
>subscribe to the development list?
>
That was the list that preceded this one...

Steve K4HG

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

85. [picsig] Re: Development list?

From: John Hansen <hansen@fredonia.edu>
Date: Mon, 08 Mar 1999 10:05:37 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-9608-1999.03.08-09.05.18--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 10:01 AM 3/8/99 -0500, you wrote:
>
>Steve Dimse K4HG wrote:
>
>>
>> callsign field. This tickles my memory, didn't this issue come up on the
>> development list a while back?
>
>Not seeing instructions on TAPR.ORG, how does one become part of or
>subscribe to the development list?
>

The development list was used extensively during the period where the original PIC-E was begin developed. When the PIC-E was released, the picsig list was established and virtually all of the development discussion has shifted over here. There really hasn't been any activity to speak of on the old list since

the release date. So don't worry, you aren't missing anything!

John, W2FS

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

86. [picsig] Re: Incorrect Position Reports

From: Steve Dimse K4HG <k4hg@tapr.org>
Date: Mon, 8 Mar 1999 10:04:02 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-9609-1999.03.08-09.06.14--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On 3/8/99 9:57 AM John Hansen (hansen@fredonia.edu) wrote:

>At 09:43 AM 3/8/99 -0500, you wrote:
>>
>>Well, there seem to be two separate problems. The first is that the
>>destination needs to be in upper case. John, are you sending it as lower
>>case?
>
>The destination has coded values based on the position report from the GPS
>unit. It is done according to the MIC-E spec. If the data coming in from
>the
>GPS is not correct, it will, of course, result in the destination being bad.
>But the destination isn't a callsign in the usual sense. The Source and Path
>are forced to be uppercase by the GUI program that collects the values.
>
OK, but the encoding of the destination callsign needs to be done in
upper case, not lower case. Are you doing this?

Steve K4HG

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87. [picsig] Re: Incorrect Position Reports

From: Steve Dimse K4HG <k4hg@tapr.org>
Date: Mon, 8 Mar 1999 10:06:21 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-9610-1999.03.08-09.08.30--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On 3/8/99 9:54 AM John Hansen (hansen@fredonia.edu) wrote:

>This does not sound right. The GPS is supposed to be producing RS-232 level
>signals, which should be more like 10-12 volts. In fact, the 22K dropping

Many GPSs do not put out true RS 232 signals, 0-5 volts is common.
Perhaps we need to add a jump to disconnect the dropping resistor...

Steve K4HG

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88. [picsig] Re: Incorrect Position Reports

From: Duncan Orthner <orthner@idirect.com>
Date: Mon, 08 Mar 1999 10:17:35 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-9615-1999.03.08-09.19.38--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 09:54 AM 3/8/99 -0500, you wrote:

>This does not sound right. The GPS is supposed to be producing RS-232 level
>signals, which should be more like 10-12 volts.

Ummm, don't think so. The Garmin output is logic *not* true RS-232 although
it usually works with most computer's serial ports. The 6V figure is
correct. If the dropping resistor is 22K then it is the problem. Try a
lower value...

Cheers, Duncan

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89. [picsig] Re: Incorrect Position Reports

From: John Hansen <hansen@fredonia.edu>
Date: Mon, 08 Mar 1999 10:26:34 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-9616-1999.03.08-09.26.19--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 10:17 AM 3/8/99 -0500, you wrote:
>At 09:54 AM 3/8/99 -0500, you wrote:
>
>>This does not sound right. The GPS is supposed to be producing RS-232 level
>>signals, which should be more like 10-12 volts.
>
>Ummm, don't think so. The Garmin output is logic *not* true RS-232 although
>it usually works with most computer's serial ports. The 6V figure is
>correct. If the dropping resistor is 22K then it is the problem. Try a
>lower value...
>
>Cheers, Duncan
>

I stand corrected. It is interesting that my GPS III Plus seems to work fine.
I'll have to measure the voltage on it and see what I get. Perhaps we should
put a jumper in here or maybe change the manual to indicate a lower resistor
value may be needed. I believe the PIC will tolerate a 6 volt pin input, but
I'm not certain of this.

John, W2FS

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90. [picsig] Re: Incorrect Position Reports

From: John Hansen <hansen@fredonia.edu>
Date: Mon, 08 Mar 1999 10:14:35 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-9617-1999.03.08-09.29.17--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 10:04 AM 3/8/99 -0500, you wrote:

>OK, but the encoding of the destination callsign needs to be done in
>upper case, not lower case. Are you doing this?
>
>Steve K4HG

Here's the relevant section from the MIC-E manual (sorry, I copied it off the
HTML, but it didn't come out all that well). The first character of the
destination callsign, for example is Ar1DDDD0 where A is a message bit, and
DDDD is the first digit of the latitude. There's no uppercase or lowercase to
this, it's just a numeric value.

John, W2FS
==========

Destination Address

Fig. 2 -- Destination Address
Encoding

Callsign: Latitude & msg,
etc. bits

SSID
Ar1DDDD0
Br1DDDD0
Cr1MMMM0
Nr1MMMM0

Lr1HHHH0

Wr1HHHH0

CrrSSID0

Since the MIC-E is transmitting unconnected (broadcast) AX.25 frames, the destination address does not have to be a callsign-SSID as is required for connected-mode (two-way station-to-station) communications. Conventional APRS transmissions set the destination address to a generic broadcast callsign such as APRS. The MIC-E compressed transmission instead makes good use of these seven bytes by embedding the latitude and various flag and message bits as follows:

Six binary decimal latitude 4-bit nibbles giving degrees, minutes, & hundredths of minutes (DDDD DDDD MMMM MMMM HHHH HHHH).
[ABC] Three message bits, complemented (e.g. message 5 is 010).
[N] Northern/Southern latitude bit (N = 1, S = 0).
[W] Eastern/Western longitude bit (W = 1, E = 0).
[L] 100's of longitude degrees (L = 1 means add 100 degrees to longitude in the Info field.)
[C] Command/Response flag (see AX.25 specification).
[r] reserved for future use (currently 0).
==========

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

91. [picsig] Re: Incorrect Position Reports

From: KA8VIT@qsl.net
Date: 10:26:26
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-9618-1999.03.08-09.29.33--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I use a MAX-232ACPE chip to ensure
proper levels.

Haven't had a problem since.

73 de ka8vit

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

92. [picsig] Re: Incorrect Position Reports

From: Duncan Orthner <orthner@idirect.com>
Date: Mon, 08 Mar 1999 10:41:20 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-9624-1999.03.08-09.43.21--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 10:26 AM 3/8/99 -0500, John wrote:

>Perhaps we should
>put a jumper in here or maybe change the manual to indicate a lower resistor
>value may be needed. I believe the PIC will tolerate a 6 volt pin input, but
>I'm not certain of this.

You're right. They have big internal diodes. I've run 70+ volt (!) signals into PIC's with no problems...so a jumper should work. This should also still work with RS232 signals.

Best, Duncan

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93. [picsig] Re: Incorrect Position Reports

From: Steve Dimse K4HG <k4hg@tapr.org>
Date: Mon, 8 Mar 1999 10:41:39 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-9625-1999.03.08-09.43.42--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On 3/8/99 10:14 AM John Hansen (hansen@fredonia.edu) wrote:

>Here's the relevant section from the MIC-E manual (sorry, I copied it off
>the
>HTML, but it didn't come out all that well). The first character of the
>destination callsign, for example is Ar1DDDD0 where A is a message bit, and
>DDDD is the first digit of the latitude. There's no uppercase or
>lowercase to
>this, it's just a numeric value.
>
Well, just looking at this you know it is wrong, the zero is in the wrong
place. Not the first time this documentation has messed us up. Anyway,
from the AX-25 spec:

2.2.13 Address-Field Encoding

The address field of all frames shall be encoded with both the
destination and source amateur call signs for the frame. Except for the
Secondary Station Identifier (SSID), the address field should be made up
of upper-case alpha and numeric ASCII characters only.

Steve K4HG

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94. [picsig] Re: Incorrect Position Reports

From: John Hansen <hansen@fredonia.edu>
Date: Mon, 08 Mar 1999 11:02:56 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-9627-1999.03.08-10.02.45--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 10:41 AM 3/8/99 -0500, you wrote:
>On 3/8/99 10:14 AM John Hansen (hansen@fredonia.edu) wrote:
>
>>Here's the relevant section from the MIC-E manual (sorry, I copied it off
>>the
>>HTML, but it didn't come out all that well). The first character of the
>>destination callsign, for example is Ar1DDDD0 where A is a message bit, and
>>DDDD is the first digit of the latitude. There's no uppercase or
>>lowercase to
>>this, it's just a numeric value.
>>
>Well, just looking at this you know it is wrong, the zero is in the wrong
>place. Not the first time this documentation has messed us up.

Well, often maybe, but not this time. The zero is in there because every byte
of the address section is left-shifted 1 bit. A "W" in a callsign, for example
will show up as 0xAE (10101110) instead of the 0x57 (01010111) that is shown in
the ASCII table. Then the last entry in the address field has a 1 as the last
bit rather than a zero. This is how the determination is made as to where the
address field ends (see my DCC paper for more information). While the AX.25
spec does say that this should be upper-case, the MIC-E protocol just doesn't
do it this way. For example, imagine how you would encode 79 degrees of
latitude. The first digit contains the "7" value. It is structured as:

Ar1DDDD0.   The A is a message bit, assume it is 1. The r is reserved and is
always set to 1. The 1, of course, is 1. The DDDD would be 0111 (=7). so the
value would be:
11101110. That's a decimal value of 238, which is neither upper-case nor
lower-case.

John, W2FS

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95. [picsig] Re: Incorrect Position Reports

From: Steve Dimse K4HG <k4hg@tapr.org>
Date: Mon, 8 Mar 1999 11:49:13 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-9633-1999.03.08-10.51.23--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On 3/8/99 11:02 AM John Hansen (hansen@fredonia.edu) wrote:

>Well, often maybe, but not this time. The zero is in there because every
>byte
>of the address section is left-shifted 1 bit. A "W" in a callsign, for
>example
>will show up as 0xAE (10101110) instead of the 0x57 (01010111) that is
>shown in
>the ASCII table. Then the last entry in the address field has a 1 as the
>last
>bit rather than a zero. This is how the determination is made as to where
>the
>address field ends (see my DCC paper for more information). While the AX.25
>spec does say that this should be upper-case, the MIC-E protocol just doesn't
>do it this way. For example, imagine how you would encode 79 degrees of
>latitude. The first digit contains the "7" value. It is structured as:
>
>Ar1DDDD0.   The A is a message bit, assume it is 1. The r is reserved and is
>always set to 1. The 1, of course, is 1. The DDDD would be 0111 (=7).
>so the
>value would be:
>11101110. That's a decimal value of 238, which is neither upper-case nor
>lower-case.
>
This left shift is reversed by the decoding TNC, doing that you end up
with a lower case letter. The problem is the reserved bit. The docs you
sent earlier state it is a zero, not a one. Bob wrote it that way,
because he had tried encoding info in that bit, and found it was passed
by most, but not all TNCs. He wasn't willing to give up one it, so
instead of making it a zero he made it reserved. But to comply withg the
AX-25 spec, it must be zero. That will correct the lower case problem.
Because it is not parsed by most, if not all, programs, it decodes
correctly. But a few tncs will not pass it because it is not valid
AX-25...

Steve K4HG

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96. [picsig] Re: Incorrect Position Reports

From: John Hansen <hansen@fredonia.edu>
Date: Mon, 08 Mar 1999 14:01:43 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-9655-1999.03.08-13.01.28--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 11:49 AM 3/8/99 -0500, you wrote:
>On 3/8/99 11:02 AM John Hansen (hansen@fredonia.edu) wrote:

>>
>This left shift is reversed by the decoding TNC, doing that you end up
>with a lower case letter. The problem is the reserved bit. The docs you
>sent earlier state it is a zero, not a one. Bob wrote it that way,
>because he had tried encoding info in that bit, and found it was passed
>by most, but not all TNCs. He wasn't willing to give up one it, so
>instead of making it a zero he made it reserved. But to comply withg the
>AX-25 spec, it must be zero. That will correct the lower case problem.
>Because it is not parsed by most, if not all, programs, it decodes
>correctly. But a few tncs will not pass it because it is not valid
>AX-25...
>
>Steve K4HG

Thanks for the info. I'm beginning to understand your point here. I had
thought you were saying it needed to be an upper case letter after it was
shifted. But if the reserved bit is "0" and suppose the "A" part of the
message bits is also "0",   If the latitude is 05 degrees, the bitstring,
before shifting, will be 00010000 for the first byte. That gives me a 0x10,
which isn't upper-case either.

John, W2FS

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97. [picsig] Feedback on construction

From: "Rick Bandla" <ve3cvg@rac.ca>
Date: Mon, 8 Mar 1999 13:13:36
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-9658-1999.03.08-13.15.28--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi all, i'm a little late coming into list. Just built up the PIC-E on the weekend. Took about 2 hours. No problems during construction except noticed that the 1 x 8 header that was supplied had shorther and smaller size pins than the 2 x 8. THis makes the flea clip a bit loose. Also, suggest you use the LEDs that have the dull plastic rather than the clear ones. The dull ones show up much better.

I tried 3 computers with PICPROG before I got it working. The first, my current model laptop with Win98, looked like it was gonna work but i never succeeded in making it go. The next 2 were old desktop machines with Win95. With both of these i occasionally get a lock up when READing the chip (or anything else). This is cleared by disconnecting then reconnecting the 9 pin cable at the PIC-E. After this, everything works fine. All READ, ERASE, and PROGRAM works ok. The diagnostic runs fine. Tonite i will try some more stuff - just wanted to provide this while it was fresh.

Regards. Rick (VE3CVG)

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98. [picsig] Re: Incorrect Position Reports

From: Steve Dimse K4HG <k4hg@tapr.org>
Date: Mon, 8 Mar 1999 14:21:15 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-9660-1999.03.08-13.23.49--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On 3/8/99 2:01 PM John Hansen (hansen@fredonia.edu) wrote:

>Thanks for the info. I'm beginning to understand your point here. I had
>thought you were saying it needed to be an upper case letter after it was
>shifted. But if the reserved bit is "0" and suppose the "A" part of the
>message bits is also "0",   If the latitude is 05 degrees, the bitstring,
>before shifting, will be 00010000 for the first byte. That gives me a 0x10,
>which isn't upper-case either.
>
OK, but you are forgetting the last step, which is to add 32 to the
number after you have set all the other bits.

Steve

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99. [picsig] Re: Incorrect Position Reports

From: John Hansen <hansen@fredonia.edu>
Date: Mon, 08 Mar 1999 14:34:32 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-9663-1999.03.08-13.34.15--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 02:21 PM 3/8/99 -0500, you wrote:
>On 3/8/99 2:01 PM John Hansen (hansen@fredonia.edu) wrote:
>
>>Thanks for the info. I'm beginning to understand your point here. I had
>>thought you were saying it needed to be an upper case letter after it was
>>shifted. But if the reserved bit is "0" and suppose the "A" part of the
>>message bits is also "0",   If the latitude is 05 degrees, the bitstring,
>>before shifting, will be 00010000 for the first byte. That gives me a 0x10,
>>which isn't upper-case either.
>>
>OK, but you are forgetting the last step, which is to add 32 to the
>number after you have set all the other bits.
>
>Steve
>
>

I guess its amazing my firmware works. Where does it say to do this? I can't

find it even in the December '98 revision of the protocol document.

John

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100. [picsig] Re: Incorrect Position Reports

From: Steve Dimse K4HG <k4hg@tapr.org>
Date: Mon, 8 Mar 1999 15:11:24 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-9668-1999.03.08-14.14.12--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On 3/8/99 2:34 PM John Hansen (hansen@fredonia.edu) wrote:

>I guess its amazing my firmware works. Where does it say to do this? I
>can't
>find it even in the December '98 revision of the protocol document.
>
At times I think it is amazing that any of the programs are able to
decode the Mic-E format. The number is 0x30, not 32. From the last
official document I have from Bob describing the protocol:

   LATITUDE: The latitude is encoded in the TO CALLsign. Each digit of
   the latitude is one character in the callsign. But also associated
   with each of these characters are 6 additional bits of information,
   one per digit. If the associated bit is a 1 then $20 is added to the
   byte. If the bit is 0 then the digit is unchanged. These bits
   represent the following 6 items as follows:

Reading this it actually seems a bit more clear than the other wordings
for describing the encoding. Note that in this quote the conversion to
ascii is assumed to already have been done. So, if you want to encode the
second digit for your 5 degrees north, you have to convert 5 to '5',
which is adding 0x30. Then, if you need to set the associated message
bit, you add 0x20. So 0x05 become 0x35, then setting the bit gives 0x55,
or 'U'

Steve K4HG

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101. [picsig] Re: Incorrect Position Reports

From: John Hansen <hansen@fredonia.edu>
Date: Mon, 08 Mar 1999 15:36:29 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-9670-1999.03.08-14.36.12--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 03:11 PM 3/8/99 -0500, you wrote:
>On 3/8/99 2:34 PM John Hansen (hansen@fredonia.edu) wrote:
>
>>I guess its amazing my firmware works. Where does it say to do this? I
>>can't
>>find it even in the December '98 revision of the protocol document.
>>
> From the last
>official document I have from Bob describing the protocol:
>
>   LATITUDE: The latitude is encoded in the TO CALLsign. Each digit of
>   the latitude is one character in the callsign. But also associated
>   with each of these characters are 6 additional bits of information,
>   one per digit. If the associated bit is a 1 then $20 is added to the
>   byte. If the bit is 0 then the digit is unchanged. These bits
>   represent the following 6 items as follows:

Well, I'll go back and revise my code. I think the reason this didn't come up
in my testing, is that I never tried any of the messages besides "off duty"
which is encoded as all 1's.

RANT ON!

This just sucks! There is nothing about this even in the documentation that is
only 2 months old. I can understand protecting intellectual property through

patenting or through trade secrets, but protecting intellectual property by disseminating incorrect information, geez. This is beginning to sound like Microsoft.

RANT OFF!

I'll go quietly now....

John, W2FS

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102. [picsig] Re: Incorrect Position Reports

From: Alan Crosswell <n2ygk@weca.org>
Date: Mon, 8 Mar 99 15:36:17 EST
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Cc: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-9671-1999.03.08-14.38.35--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I wrote the on-air protocol description for the Mic-E manual. I know it has at least one error recently reported having to do with what order the steps are taken to decode a position report. I guess what I am saying here is the documentation should not be considered 100% authoritative. I based the description on Bob's documentation, his answers to questions I asked and writing code to *decode* Mic-E packets. As such, it should be read from a decoder's point of view. Using it to implement encoding might lead to ambiguous results like lower vs. upper case chars. I don't know for sure.

The contents of the TO-CALL as generated by the Mic-E reference implementation is AX.25 compliant, meaning the characters in the callsign are all upper-case ASCII alpha-numerics, left-shifted one bit "on air." After right-shifting to get back to ASCII, I've never seen lowercase characters decode from a received MIC-E packet.

73 de Alan N2YGK

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103. [picsig] Re: Incorrect Position Reports

From: Alan Crosswell <n2ygk@weca.org>
Date: Mon, 8 Mar 99 15:52:29 EST
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Cc: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-9674-1999.03.08-14.54.24--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>place. Not the first time this documentation has messed us up. Anyway,

Only the second time I've heard about the documentation being wrong. Perhaps direct email to the person responsible for writing the document might help. With the high volume of mail on the various TAPR mailing lists it is kind of hard for me to pick things out. List the errata you are aware of and I will gladly edit.

73 de Alan N2YGK

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104. [picsig] Re: Incorrect Position Reports

From: Jeff King <jeff@aerodata.net>
Date: Mon, 08 Mar 1999 16:06:04 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Cc: TAPR PIC Development Special Interest Group <picsig@lists.tapr.org>
Message-ID: <LYR6890-9675-1999.03.08-15.00.27--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

John Hansen wrote:

> RANT ON!
>
> This just sucks! There is nothing about this even in the documentation that is
> only 2 months old. I can understand protecting intellectual property through
> patenting or through trade secrets, but protecting intellectual property by
> disseminating incorrect information, geez. This is beginning to sound like
> Microsoft.

Its also against FCC regulations (at least during my last reading) to use such a
code over the air, assuming it is not properly documented. You can transmit
any digital code you want over the air, but you have to have it documented. This
even applies to the end user.

BTW, were is the latest MIC-E protocol documentation? I got something off
of TAPR a while back, and Bob sent me some notes a bit back, but it
sounds like someone actually compiled the protocol 2 months ago. Would
be good to send this to the TAPR ftp site.

>
> RANT OFF!
>
> I'll go quietly now....

Its good to see a ham that is passionate about a technical issue.... keep ranting.

-Jeff

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

105. [picsig] RE: Need one more pin on JP3

From: eric.r.cook@exgate.tek.com
Date: Mon, 8 Mar 1999 13:12:46 -0800
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-9677-1999.03.08-15.14.55--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Great idea, Mark. I too got thrown off course and ended up with a
short-all-three approach.

One more suggestion on Tripmate integration. How about adding pads for a
(beefier) 7805 regulator and a jumper to send +5V up pin 9 of the GPS DB-9.
Then, the PIC-E, Tripmate and an HT would make a nice simple tracker
package.

I also had a problem with my HT keying up and sticking when power to the
PIC-E is removed. I haven't spent the time to troubleshoot it yet though.

Other than the above snags, I've been having fun tweaking around with the
pice090 code. Thanks, guys for such a great little toy!

73,

Eric, KC7RYP

-----Original Message-----
From: Mark Grennan [mailto:mgrennan@fleming.com]
Sent: Saturday, March 06, 1999 5:01 PM
To: TAPR PIC Development Special Interest Group
Subject: [picsig] Need one more pin on JP3

I findly got around to wiring up my HT (Icom IC-T7A and HTX-202). I got it
working with one oops in the design.

The docs talk about handie-talkie interfacing and the Figure 3 is nice but
it doesn't show how you are going to get the PTT and MIC_AUDIO to the same
pin. I found a work around by wire wrapping all three pins on J5, J6 and
J4 together.

A beter way would be to add another ping to JP3 so when you un-jumper JP3-1
to JP3-2 you can jumper JP3-1 to a pin going to MIC_AUDIO from the MX614.

Mark G. KD5AMB

You are currently subscribed to picsig as: eric.r.cook@tek.com
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

---
You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

106. [picsig] Re: Incorrect Position Reports

From: Alan Crosswell <alan@watsun.cc.columbia.edu>
Date: Mon, 8 Mar 99 16:16:10 EST
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Cc: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>,
TAPR PIC Development Special Interest Group <picsig@lists.tapr.org>
Message-ID: <LYR6890-9678-1999.03.08-15.18.06--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>sounds like someone actually compiled the protocol 2 months ago. Would

Yes, someone (me) did it as a beta-tester of the original Mic-E.
http://www.tapr.org/tapr/html/Fmic-e-proto.html

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107. [picsig] Problem HT keying up

From: "Steven R. Bible" <srbible@gate.net>
Date: Mon, 08 Mar 1999 18:52:42 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-9701-1999.03.08-17.51.42--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>I also had a problem with my HT keying up and sticking when power to the
>PIC-E is removed. I haven't spent the time to troubleshoot it yet though.

Eric,

Ken McGuire WA2VFN suggested adding a 1N4148 diode in series with R17 and
the collector of Q1. Sorry, I don't know which way he said to put it. Ken?

To quote his 3/2/99 email:

> I think that the production Pic-e needs the PTT fix that was put
>into the Mic-e. This consists of a 1N4148 diode in series with R17
>and the collector of Q1. if this diode is not there, the radio might
>key up if it's PTT line is pulled up to some voltage >5vdc. I have
>such a radio, and it would key up every time it was plugged into the
>Pic-e. I looked at my Mic-e doc's and added the diode, works fine
>now.

- Steve, N7HPR
  n7hpr@tapr.org
  n7hpr@amsat.org

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

108. [picsig] Were's the (beefer) regulator?

From: "Steven R. Bible" <srbible@gate.net>
Date: Mon, 08 Mar 1999 19:18:20 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-9706-1999.03.08-18.17.17--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>One more suggestion on Tripmate integration. How about adding pads for a
>(beefier) 7805 regulator and a jumper to send +5V up pin 9 of the GPS DB-9.
>Then, the PIC-E, Tripmate and an HT would make a nice simple tracker
>package.

Can someone tell us how much current the Tripmate draws? And while we're
at it, how about the Earthmate?

I've been looking at the Garmin GPS35-LVS, which the docs say 120 mA
typical and 140 mA max. What is it in real life?

And do you want both the PIC-E and Tripmate to operate from batteries or
automobile?

This will help pick the best regulator for the job.

FWIW - The 7805 is a dog of a regulator. For one it takes a lot of current
just to run it. Thus it is a bad choice for battery operations. It also
heats up when the input voltate is >> that 5V. Thus if you connect it to
the automobile voltage of 13.8V, the 7805 drops the 8.8V as heat. The only
advantage to the 7805 is that it is easy to hook up and it's cheap.

Others on the list wanted the switching type regulator that is on the
DGPSIB, VP and Garmin interface boards. This is Doug McKinney's KC3RL
design. It works extremely well. The work horse chip is a buck regulator.
 The copper foil beneth it acts as the necessary heat sink. It can take
upto 40V input. The disadvantage to Doug's design is that it requires 2
capacitors, 1 inductor, zener, and the regulator chip.

One regulator that I keep coming back to is the Power Trends
(http://www.powertrends.com) PT5101 (5V version) integrated switching
regulator (ISR). It has the same pinout as the 7805, so it's a drop in
replacment. It is physically a little larger than the 7805, so you need to
make sure there's room before dropping it in place. No heat sink and it's
a switching regulator and it works great with batteries. Good to 1 amp.
The draw back is it is expensive. You can order them through Digi-Key and
Qty 1 they are $13.13. But it is worth it.

In my research of voltage regulators, it's funny to note that there are two
classes of current ratings: 100 mA or 1 amp. Anyone know of 200, 300, or
500 mA regulators that have a low queisent (sp?) voltage?

- Steve, N7HPR
  n7hpr@tapr.org
  n7hpr@amsat.org

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109. [picsig] RE: Need one more pin on JP3

From: "Steven R. Bible" <srbible@gate.net>
Date: Mon, 08 Mar 1999 20:54:24 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-9715-1999.03.08-19.53.26--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Mark, KD5AMB, said...

>I findly got around to wiring up my HT (Icom IC-T7A and HTX-202). I got it
>working with one oops in the design.
>
>The docs talk about handie-talkie interfacing and the Figure 3 is nice but
>it doesn't show how you are going to get the PTT and MIC_AUDIO to the same
>pin. I found a work around by wire wrapping all three pins on J5, J6 and
>J4 together.
>
>A beter way would be to add another pin to JP3 so when you un-jumper JP3-1
>to JP3-2 you can jumper JP3-1 to a pin going to MIC_AUDIO from the MX614.

Mark, I was studying this tonight and I think I see what you are
suggesting. The diagram (figure 3 in the assembly manual) showing how to
wire up an HT was ment as an external circuit to the PIC-E. But I can see
you've found a circuit internal to the PIC-E. Good idea.

Interfacing a PIC-E or MIC-E to an HT is simple. Much like a TNC. But the
difficultly comes in interfacing the microphone that has a resistive PTT
sense line and not a separate PTT line like mobile radios do.

Interfacing a HT microphone is tricky business. The PIC-E mic circuitry
closely follows the MIC-E circuitry. One short coming of the MIC-E is not
being able to interface an HT microphone and HT. And I am talking about
those HT's with the PTT resistive sense, not the older ones that have
dedicated PTT lines (i.e. older Kenwoods).

The idea behind the MIC-E is to disconnect the PTT line between the Mic and
Radio. The Mic PTT line feeds and input to the microcontroller (PIC) and
the PIC has a separate Mic PTT line. This allows the PIC to sense and
make-or-break the PTT line to the Radio. This is how the MIC-E can send
the packet burst after you let go of the microphone. The PIC senses the
release of PTT, hangs onto the PTT (keeps it grounded or asserted) and
sends the packet then releases PTT.

The method above, tying all three pins of J4/J5/J6 allows the PIC-E to
sense and hold the PTT line. Mark, I'd be interested in hearing how your
setup works. Does it act like a Mic-E as I descibed above?

Others that have interface an HT to a Mic-E have resorted to using a reed
switch to sense the PTT and asserting PTT on the MIC-E.

I tried a design using a transistor biased just right to sense the PTT on
an HT Mic. Haven't perfected the circuit yet.

- Steve, N7HPR
  n7hpr@tapr.org
  n7hpr@amsat.org

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110. [picsig] PIC-E and Weather Stations

From: "Steven R. Bible" <srbible@gate.net>
Date: Mon, 08 Mar 1999 22:14:27 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-9735-1999.03.08-21.13.27--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>I put together a very simple demo using the PIC-E last night. I kludged
>some code to read data from my weather station (www.phanderson.com) and
>send a simple UI beacon every few minutes. I brought it to a club event and
>people seemed rather interested! I'm going to clean up the code a little
>bit tonight, then I might release it tommrow if there is any interested.

James please do. The Peter H. Anderson web site you mentioned is very
facinating. There is interest in the PIC-E being interfaced to weather
stations.

Steve Dimse, K4HG, has written code to take the Peet Brothers U2000
Complete Record format and transmit it as Weather APRS packets. Works
nicely as I have it up and running.

- Steve, N7HPR
  n7hpr@tapr.org
  n7hpr@amsat.org

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111. [picsig] Re: PIC-E and Weather Stations

From: "Steven R. Bible" <srbible@gate.net>
Date: Mon, 08 Mar 1999 22:20:58 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-9736-1999.03.08-21.19.58--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 10:14 PM 3/8/99 -0500, you wrote:
>>I put together a very simple demo using the PIC-E last night. I kludged
>>some code to read data from my weather station (www.phanderson.com) and
>>send a simple UI beacon every few minutes. I brought it to a club event and
>>people seemed rather interested! I'm going to clean up the code a little
>>bit tonight, then I might release it tommrow if there is any interested.
>
>
>James please do. The Peter H. Anderson web site you mentioned is very
>facinating. There is interest in the PIC-E being interfaced to weather
>stations.

>
>Steve Dimse, K4HG, has written code to take the Peet Brothers U2000
>Complete Record format and transmit it as Weather APRS packets. Works
>nicely as I have it up and running.

Opps, forgot to mention is it in the ftp area

    ftp://ftp.tapr.org/picsig/software/

the name of the program is U2K.ZIP

- Steve, N7HPR
  n7hpr@tapr.org
  n7hpr@amsat.org

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112. [picsig] Re: PIC-E and Weather Stations

From: "Ray J. Vaughan" <ray@rayvaughan.com>
Date: Mon, 08 Mar 1999 22:39:27 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-9746-1999.03.08-21.44.32--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>Steve Dimse, K4HG, has written code to take the Peet Brothers U2000
>Complete Record format and transmit it as Weather APRS packets. Works
>nicely as I have it up and running.

Just wondering... has anyone tackled the Radio Shack weather station yet?

Ray, KD4BBM

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113. [picsig] Re: PIC-E and Weather Stations

From: Steve Boyle <sboyle@slip.net>
Date: Mon, 08 Mar 1999 21:06:09 -0800
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-9760-1999.03.08-23.02.55--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Yes.. I've started. Have got it interfaced and reading in bytes. Still a
bit to-do... Conversion of the data and building the packet.

    I want to second the use of a MAX-232 chip. Had all sorts of problems
with interfacing the RS WX-200. As soon as I add the chip in line, everything
work flawlessly. I does cost a couple of bucks to add. But, well worth it to
fix the inconsistent operation.

Steve
kd6wxd

"Ray J. Vaughan" wrote:

> >Steve Dimse, K4HG, has written code to take the Peet Brothers U2000
> >Complete Record format and transmit it as Weather APRS packets. Works
> >nicely as I have it up and running.
>
> Just wondering... has anyone tackled the Radio Shack weather station yet?
>
> Ray, KD4BBM
>

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114. [picsig] Re: PIC-E and Weather Stations

From: James Jefferson <jjeffers@deskmedia.com>
Date: Mon, 08 Mar 1999 23:35:32 -0600
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-9766-1999.03.08-23.37.25--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>James please do. The Peter H. Anderson web site you mentioned is very
>fascinating. There is interest in the PIC-E being interfaced to weather
>stations.

Steve and friends,

I didn't really mean to offer the code as a functional product yet, but
more of as a very simple jumping off point for sending UI frames. As it is,
only the first two temperature measurements are read and parsed. I put the
code together for a demonstration, but I intend to make it fully featured,
sometime in the near future.

I'm going to place my PIC-Encoder stuff at:
http://www.deskmedia.com/~jjeffers/packet/pic/

The weather station is triggered by an incomming signal (well, actually a
pulse on its reset line) at which point it starts spitting back data. I
grab the first 17 bytes and place the two temperature measurements into an
array. When it comes time to send a packet, the static part is read from
the internal EEPROM and the dynamic part is read from various arrays. This
particular "release" uses only 42% of the ROM and 35% of the RAM. I'm using
PCM 'C' 2.660 at the momment.

I've noticed the PIC-E's builtin programmer is very sparatic at programming
the internal EEPROM. The problems see to be the worst while using PicProg
.4B under windows. For DOS, PIX would be a good downloader so you can
double check to see if the EEPROM loaded correctly. NOTE: You will need to
change you callsign at the top. Remeber to shift the byte to left once. See
John Hansen W2FS's DCC paper for details.

pice.h is the header file I'm going to use for all projects. I would
appreciate comments on the names I chose for the defines. I think it would
be good to have a somewhat standard set of pin names amoung the group, to
prevent confusion. Of course I don't want to play Micro$oft and force
everyone to use my "standards."

Proffesor Peter H. Anderson is an awesome guy. I've bought various kits and
parts from him and I don't have a single complaint. Generally shipping is
quite fast and inexpensive. All of his kits that I have tried are
outstanding. The documentation is clear and in-depth. Fascinating
Electronics (the weather insturment used by the station) is also a friendly
company. So far I'm only purchased a RH sensor from them, but that board
was top quality and the kit went together easily.
http://www.columbia-center.org/fascinating/

73's

-James Jefferson KB0THN
jjeffers@deskmedia.com
http://www.deskmedia.com/~jjeffers/

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115. [picsig] Re: PIC-E and Weather Stations

From: Steve Dimse <sdimse@netrox.net>
Date: Tue, 9 Mar 1999 06:12:43 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-9798-1999.03.09-05.16.30--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On 3/8/99 10:20 PM Steven R. Bible (srbible@gate.net) wrote:

>>Steve Dimse, K4HG, has written code to take the Peet Brothers U2000
>>Complete Record format and transmit it as Weather APRS packets. Works
>>nicely as I have it up and running.
>
>
>Opps, forgot to mention is it in the ftp area

I just want to mention this is a work in progress. There are a number of
things I need to do to before it is ready for release...

Steve K4HG

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116. [picsig] Re: Problem HT keying up

From: "Ken McGuire" <mcguire.ken.e@sd.littondsd.com>
Date: Tue, 9 Mar 1999 06:21:55 -0800
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-9815-1999.03.09-08.24.08--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> Eric,
>
> Ken McGuire WA2VFN suggested adding a 1N4148 diode in series with R17 and
> the collector of Q1. Sorry, I don't know which way he said to put it.
> Ken?

Sorry, It should go in with the Cathode towards Q1 Collector. This is
the same fix that is in the Mic-e, for the same reasons.

>
> To quote his 3/2/99 email:
>
> > I think that the production Pic-e needs the PTT fix that was put
> >into the Mic-e. This consists of a 1N4148 diode in series with R17
> >and the collector of Q1. if this diode is not there, the radio might key
> >up if it's PTT line is pulled up to some voltage >5vdc. I have such a
> >radio, and it would key up every time it was plugged into the Pic-e. I
> >looked at my Mic-e doc's and added the diode, works fine now.
>

...ken...

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117. [picsig] Re: Incorrect Position Reports

From: "Mark Grimes WA0TOP" <Mark_Grimes@compuserve.com>
Date: Tue, 9 Mar 1999 9:39:40
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-9842-1999.03.09-09.42.03--lyris.picsig#tapr.org@lists.tapr.org>
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Last night on the bench I replaced the 22K resistor at R2 with a 10K. This
brought the high data levels up to 5.6 volts. I was operating the PIC-E
with the GPS-III and the FT-470 HT as before and it worked perfectly. I
then removed the dummy load from the HT. The problems returned. I
selected low power xmit on the HT and things seemed to improve. I then
cleaned up the work area, removed the scope probes and installed ferrites
on the three cables going to the PIC-E (power, GPS, HT). I also ran a wire
behind the circuit card to connect the two DB-9 mounting screws to the
PIC-E ground circuit. With this configuration, I was getting about one in
a hundred incorrect reports. This compares to one in three before. This
is clearly an RFI problem. I will go today and get a box to put Mr. PIC-E
in. He doesn't like RF at all.

Jeff King is correct about the power supply in a car. If I start the car
with the PIC-E powered up, it doesn't work. I have learned to operate the
ignition key carefully to turn off the accessories, operate the starter,
stop the starter, and wait before turning the accessories back on. It
takes a careful touch, but can be done. Otherwise, turn off the PIC-E,
start the car, turn it back on.

I am powering the (12V) GPS-III from pin 9 of the DB-9 P1. This is
normally an output, and the Earthmate also uses this pin for (5V) power.

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118. [picsig] HT interface

From: Mark Grennan <mgrennan@mail.fleming.com>
Date: Tue, 09 Mar 1999 10:17:05 -0600
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-9845-1999.03.09-10.19.01--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

eric.r.cook wrote:
 > Great idea, Mark. I too got thrown off course and ended up with a
 > short-all-three approach.

Ou Ha, We're on the same track.

 > One more suggestion on Tripmate integration. How about adding pads for a
 > (beefier) 7805 regulator and a jumper to send +5V up pin 9 of the GPS DB-9.
 > Then, the PIC-E, Tripmate and an HT would make a nice simple tracker
 > package.

Already had this idea. The next step is to remove the battaries from the Tripmate

and put the Pic-E in the base. Then run raw power through the connector.

 > I also had a problem with my HT keying up and sticking when power to the
 > PIC-E is removed. I haven't spent the time to troubleshoot it yet though.

Same here. ANYONE GOT AN IDEA?

 > Other than the above snags, I've been having fun tweaking around with the
 > pice090 code. Thanks, guys for such a great little toy!

Exactly what I'm doing. I havn't gotten the PIC-E code to work yet.

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119. [picsig] PICProto Boards

From: "Sadowski, Allan" <allan.sadowski@ncshp.org>
Date: Tue, 9 Mar 1999 13:22:57 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-9858-1999.03.09-12.23.35--lyris.picsig#tapr.org@lists.tapr.org>
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For those who want a cheap PIC Proto-Board.. .you might want
to look at this link...

AH6LS

 http://www.melabs.com/mel/picproto.htm

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120. [picsig] Learning/Using 'C' for PIC Developement

From: "John Rayfield, Jr." <johnjr@rayfield.net>
Date: Tue, 09 Mar 1999 16:25:55 -0600
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-9907-1999.03.09-16.28.35--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I've noticed that quite a few of you are using 'C' for development with the
PIC controllers. I've only used assembly (mostly the Parallax/Tech-Tools
'version'). Any suggestions on what would be a good way to go about
learning 'C' for this type of development?

   John Rayfield, Jr.
   KR0Y

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121. [picsig] Re: Learning/Using 'C' for PIC Developement

From: James Jefferson <jjeffers@deskmedia.com>
Date: Tue, 09 Mar 1999 18:37:42 -0600
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>

Message-ID: <LYR6890-9921-1999.03.09-18.39.33--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>I've noticed that quite a few of you are using 'C' for development with the
>PIC controllers. I've only used assembly (mostly the Parallax/Tech-Tools
>'version'). Any suggestions on what would be a good way to go about
>learning 'C' for this type of development?

Figure out a project you want to accomplish, buy the compiler, and start
writting. I've found that looking at other people's code doesn't really
help - just immerse yourself in a project. A beginners 'C' book can be
helpful, don't expect to learn 'C' just by reading.

How does one learn about programming in assembly is the question I pose... =)

-James Jefferson KB0THN
jjeffers@deskmedia.com
http://www.deskmedia.com/~jjeffers/

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122. [picsig] Re: Learning/Using 'C' for PIC Developement

From: "John Rayfield, Jr." <johnjr@rayfield.net>
Date: Tue, 09 Mar 1999 18:49:49 -0600
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-9922-1999.03.09-18.46.49--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>How does one learn about programming in assembly is the question I pose... =)

Actually, I used a book - the book that came with a Motorola 68HC705K1
controller development kit. The book taught the very basics of programming
- enough to get a VERY basic program running. Then, I picked a project and
starting writing, testing, writing, etc., until it worked. <VBG>

   John
   KR0Y

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123. [picsig] Re: Learning/Using 'C' for PIC Developement

From: Steve Dimse <sdimse@netrox.net>
Date: Tue, 9 Mar 1999 20:11:32 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-9926-1999.03.09-19.13.40--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On 3/9/99 7:37 PM James Jefferson (jjeffers@deskmedia.com) wrote:

>How does one learn about programming in assembly is the question I pose... =)
>
My highest seal of approval:

"Programming and Customizing the PIC Microcontroller" by Myke Predko

While you won't learn assembler by _just reading_ the book, you will by
using the book!

Steve K4HG

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

124. [picsig] Re: Learning/Using 'C' for PIC Developement

From: "John Rayfield, Jr." <johnjr@rayfield.net>
Date: Tue, 09 Mar 1999 20:09:59 -0600
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-9933-1999.03.09-20.06.59--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>My highest seal of approval:
>

>"Programming and Customizing the PIC Microcontroller" by Myke Predko
>
>While you won't learn assembler by _just reading_ the book, you will by
>_using_ the book!
>
>Steve K4HG

Thanks, Steve. I've got the book, and have started through it. It was also
recommended to me by another person.

I've already done some programming, using the Parallax/Tech-Tools
instruction set, but I'm sure that I'll learn a LOT more from Myke Predko's
book. And I would like to get more familiar with the Microchip instruction set.

I think I'll plan on getting a PIC-E, as soon as they're available again,
too. Of course, I could just build one up from scratch on perfboard, I
guess. :-)

   John
   KR0Y

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125. [picsig] Re: Learning/Using 'C' for PIC Developement

From: James Jefferson <jjeffers@deskmedia.com>
Date: Tue, 09 Mar 1999 20:16:54 -0600
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-9934-1999.03.09-20.18.45--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>"Programming and Customizing the PIC Microcontroller" by Myke Predko

Actually I think the book is close to worthless if you're not interested is
assembly.

Just my two cents...

-James Jefferson KB0THN
jjeffers@deskmedia.com
http://www.deskmedia.com/~jjeffers/

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126. [picsig] Re: Learning/Using 'C' for PIC Developement

From: Steve Dimse <sdimse@netrox.net>
Date: Tue, 9 Mar 1999 21:36:51 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-9936-1999.03.09-20.39.08--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On 3/9/99 9:16 PM James Jefferson (jjeffers@deskmedia.com) wrote:

>>"Programming and Customizing the PIC Microcontroller" by Myke Predko
>
>Actually I think the book is close to worthless if you're not interested is
>assembly.
>
>Just my two cents...
>
The question I was addressing:

>How does one learn about programming in assembly is the question I pose... =)
>
Please don't take quotes out of context...

Steve K4HG

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127. [picsig] Re: Learning/Using 'C' for PIC Developement

From: John Rauch <n4yxs@earthlink.net>
Date: Wed, 10 Mar 1999 00:54:31 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-9955-1999.03.10-00.00.16--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

James, really now. YOur comment was a bit of a slam to Dr. Demise. An
apology for such a smart ass answer to Steve would be in order.... John

At 08:16 PM 3/9/1999 -0600, you wrote:
>>"Programming and Customizing the PIC Microcontroller" by Myke Predko
>
>Actually I think the book is close to worthless if you're not interested is
>assembly.
>
>Just my two cents...
>
>-James Jefferson KB0THN
>jjeffers@deskmedia.com
>http://www.deskmedia.com/~jjeffers/
>
>---
>You are currently subscribed to picsig as: n4yxs@earthlink.net
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>
>
>

_____

John H. Rauch, MBA, MHCA, NHA, MACHE
Senior Partner
Rauch & Associates
Health Care Management and Systems Support
1450 West Lake Brantley Road
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(407) 869-0276 Voice
(407) 869-6658 Fax
n4yxs@earthlink.net

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128. [picsig] Problems I've run into

From: "Mark Grennan" <mgrennan@fleming.com>
Date: Wed, 10 Mar 1999 0:18:45
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-9964-1999.03.10-00.20.45--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Stupid Mistakes

P. The trace on the board between P3-1(Power source) and J3-16 (Mic pwr on
the dip) will source about 2 amps before fusing.

S. Put a resister in line

Hardware Problems
P. The radio keys when the Pic-e is turned off. I've only tryed HT's (3com
and HT-202)

S. Put a 1N4148 in series with R17 so keying curent can't flow back through
R17.

P. The PTT line woun't key a HT-202 with D7 (IN4001) in line.

S. Replace this diode with one with less forward resistence.

Software Problems

p. The GPS programs don't init the GPS? I don't realy know anything about
GPS's but It would seem to me some GPS's (I have a TripMate) require some
init strings to be sent to them to start working.

S. Put in some init code along with a few IFDEF's, if needed, to select the

correct GPS.

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129. [picsig] Re: Problems I've run into

From: Duncan Orthner <orthner@idirect.com>
Date: Wed, 10 Mar 1999 01:40:36 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-9966-1999.03.10-00.42.32--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 12:18 AM 3/10/99, you wrote:

>Software Problems
>
>p. The GPS programs don't init the GPS? I don't realy know anything about
>GPS's but It would seem to me some GPS's (I have a TripMate) require some
>init strings to be sent to them to start working.

 This is true of the tripmate, but not of the Garmin handhelds. From the
tripmate FAQ at:

http://vancouver-webpages.com/pub/peter/tripmate.faq

When Tripmate powers up it sends three NMEA messages (PRWIRID, GPRMC, and
 PRWIZCH) then keeps sending a "ASTRAL" string.It requires the computer
 to respond to the "ASTRAL" string by sending a "ASTRAL" string to the unit.
 After this exchange the unit works like a normal NMEA unit. This limits
 it usefulness with other products (but see below).

Regards, Duncan

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130. [picsig] Re: Learning/Using 'C' for PIC Developement

From: "Graeme Zimmer" <gzimmer@vic.bigpond.net.au>
Date: Wed, 10 Mar 1999 17:57:54 +1100
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-9969-1999.03.10-01.04.41--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Subject: [picsig] Re: Learning/Using 'C' for PIC Developement

>>"Programming and Customizing the PIC Microcontroller" by Myke Predko

>Actually I think the book is close to worthless if you're not interested is
>assembly.

I let this topic slide past the first time, but........

To me, programming PICs in "C" is ludicrous.....

and yes I am a C programmer

and yes I have a sophisticated C PIC compiler which I have used for a couple
of projects.

The PIC is a wonderfuly minimilistic beast which a good hardware hacker can
work miracles with.

In C it is a pathetic little creature.......

Now to watch the flames.......

73's ..... Zim..... VK3GJZ

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131. [picsig] Re: Learning/Using 'C' for PIC Developement

From: James Jefferson <jjeffers@deskmedia.com>
Date: Wed, 10 Mar 1999 07:29:49 -0600
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-9990-1999.03.10-07.31.42--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>James, really now. YOur comment was a bit of a slam to Dr. Demise. An
>apology for such a smart ass answer to Steve would be in order.... John

Yes, actually I did apologize last night. I was just scanning the messages
and I fired off a reply before reading the message close enough. I'll make
an effort to read messages twice from now on.

I have Myke Predko's right next to me. I agree that it is an excellent book
for learning assembly language, but in my (obviously) not so humble opinion
it won't help terribly much with learning about other languages.

Whatever the case may be I apologize to all involved about the quote
out-of-context, but I'm still entitled to my opinion on the book...

-James Jefferson KB0THN
jjeffers@deskmedia.com

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132. [picsig] MX614 bit re-timing

From: "Hall, Erik (Exchange)" <Erik.Hall@Bear.COM>
Date: Wed, 10 Mar 1999 10:13:20 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-10023-1999.03.10-09.19.23--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Just out of curiosity, why isn't the bit re-timing feature in the MX614
used? The clock line could be tied to one of the interrupt lines on the PIC,
and used for sending out the packets...

-Erik
N2NRP

****
Bear Stearns is not responsible for any recommendation, solicitation, offer or
agreement or any information about any transaction, customer account or account
activity contained in this communication.
****

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133. [picsig] Re: Learning/Using 'C' for PIC Developement

From: John Rauch <n4yxs@earthlink.net>
Date: Wed, 10 Mar 1999 12:14:55 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-10044-1999.03.10-11.22.42--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Excellent and thank you James. Yes, you are probably quite corrent that
learning assembly language for this pic will not help in learning other,
higher level languages.
However, the PIC concept is for "efficiency". In both programing space
and, thusly, cost.
But, it might be good to remember that higher level languages, such as C or
C+, must be "compiled" to a level of language that is chip specific. This
is the assembly level. Because smaller chips are basic, many of the
enhanced type of commands that are one statement in C, may take up the
entire programing space in a PIC.
Assembly programing knowledge, can, in and of itself, be quite "lucrative"
in your career. A close friend of mine has amassed a quite nice "nest egg"
for retirement, with the development of a simple assembly program that
doubled and then quaddupled the "slew rate" for many mainframe printers.
Actually, a bit over 3 million dollars.

So, from simple approaches to a problem, can come excellent solutions. My
father used to refer to it when talking to me as his "KISS" theory... Keep
It Simple Stupid! I guess I was the stupid one at that time (maybe even
still at times ;-)).

Thanks for your interest in this project. We can all use each others
perspectives in gaining solutions!

John

At 07:29 AM 3/10/1999 -0600, you wrote:
>>James, really now. YOur comment was a bit of a slam to Dr. Demise. An
>>apology for such a smart ass answer to Steve would be in order.... John
>
>Yes, actually I did apologize last night. I was just scanning the messages
>and I fired off a reply before reading the message close enough. I'll make
>an effort to read messages twice from now on.
>
>I have Myke Predko's right next to me. I agree that it is an excellent book
>for learning assembly language, but in my (obviously) not so humble opinion
>it won't help terribly much with learning about other languages.
>
>Whatever the case may be I apologize to all involved about the quote
>out-of-context, but I'm still entitled to my opinion on the book...
>
>-James Jefferson KB0THN
>jjeffers@deskmedia.com
>
>---
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>
>
>
John Rauch
Orlando, Florida

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134. [picsig] Re: MX614 bit re-timing

From: "Steven R. Bible" <srbible@gate.net>
Date: Wed, 10 Mar 1999 14:18:13 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-10066-1999.03.10-13.32.36--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 10:13 AM 3/10/99 -0500, you wrote:
>Just out of curiosity, why isn't the bit re-timing feature in the MX614
>used? The clock line could be tied to one of the interrupt lines on the PIC,
>and used for sending out the packets...

Read carefully the data sheet on the MX614. The bit retiming feature
allows the MX614 to do plan 'ol serial format. AX.25 is not. Plus AX.25
1200 bps FSK is NRZI.

- Steve
 (n7hpr@tapr.org)
 (n7hpr@amsat.org)

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135. [picsig] Re: Learning/Using 'C' for PIC Developement

From: "Kurt A. Freiberger" <kurt@cs.tamu.edu>
Date: Wed, 10 Mar 1999 14:00:44 -0600
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-10069-1999.03.10-14.03.34--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

As to C/assembler: C IS assembler language, with squiggly brackets!
Good simple C code should be almost identical to assembler, assuming one
doesn't start using all the resource-consuming options.

73/Kurt

--
Kurt A. Freiberger, WB5BBW Network Environmentalist Austin, TX
Published 12/12/98, Saint Paul Pioneer Press Bulletin Board:
Redmond, WA (AP) -- Microsoft announced today that the official release
date for the new operating system "Windows 2000" will be delayed until
the second quarter of 1901.

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136. [picsig] Re: Problems I've run into

From: Ray Vaughan <ray@rayvaughan.com>
Date: Wed, 10 Mar 1999 16:03:16 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-10075-1999.03.10-15.05.16--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 01:40 AM 3/10/99 -0500, you wrote:
>At 12:18 AM 3/10/99, you wrote:
>
>>Software Problems
>>
>>p. The GPS programs don't init the GPS? I don't realy know anything about
>>GPS's but It would seem to me some GPS's (I have a TripMate) require some
>>init strings to be sent to them to start working.
>
> This is true of the tripmate, but not of the Garmin handhelds. From the
>tripmate FAQ at:
>
>http://vancouver-webpages.com/pub/peter/tripmate.faq
>
>When Tripmate powers up it sends three NMEA messages (PRWIRID, GPRMC, and
> PRWIZCH) then keeps sending a "ASTRAL" string.It requires the computer
> to respond to the "ASTRAL" string by sending a "ASTRAL" string to the unit.
> After this exchange the unit works like a normal NMEA unit. This limits
> it usefulness with other products (but see below).

Just a reminder about the ASTRAL...

If you have your TNC (PIC-E in this case) send the init at power up, and
you power up the GPS at the same time, the Tripmate won't be ready to
understand the ASTRAL yet. It will still be doing its self test.

The really simple trick is to tie the RD and TD lines together. Then, in
effect, it's own ASTRAL request gets answered by itself. This approach has
worked for many of us using the Kantronics KPC-3 and 3+ TNCs.

Rather than wasting code in the PIC, I would suggest just linking the RD
and TD. If other TNCs really do need an init string, be prepared to kill a
lot of time before having the PIC send it.

Ray, KD4BBM

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137. [picsig] Re: Problems I've run into

From: Steve Dimse K4HG <k4hg@tapr.org>
Date: Wed, 10 Mar 1999 16:29:33 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-10080-1999.03.10-15.33.01--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On 3/10/99 4:03 PM Ray Vaughan (ray@rayvaughan.com) wrote:

>The really simple trick is to tie the RD and TD lines together. Then, in
>effect, it's own ASTRAL request gets answered by itself. This approach has
>worked for many of us using the Kantronics KPC-3 and 3+ TNCs.
>
>Rather than wasting code in the PIC, I would suggest just linking the RD
>and TD. If other TNCs really do need an init string, be prepared to kill a
>lot of time before having the PIC send it.
>
There is a jumper on the PIC to tie the rxd and txd lines together for

this purpose.

Steve K4HG

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138. [picsig] Receiving PIC-E w/ software DCD doesn't work

From: James Jefferson <jjeffers@deskmedia.com>
Date: Wed, 10 Mar 1999 18:28:53 -0600
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-10101-1999.03.10-18.30.43--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hello everyone,

I've discovered that Kantronics TNC's (haven't tried other brands) are not
able to copy my packets when using software DCD. When CD is set to internal
everything works fine, but when on software the DCD light just flashes for
a second and nothing is copied. This is not an isolated case, I've verified
this on about six seperate TNC's, including the KPC-3, KPC-3 plus,
KPC-9612, KPC-9612. I've only mentioned Kantronics because that is all I
have access to.

I'm sending 20 0x7E's prior to starting data, does this number need to be
adjusted? How does the software DCD work? I've checked out the flipout()
timming and John's delay_us(860) yeilds exactly 834 uS.

I'm hopefully going to start working on RX code this weekend - but, I don't
know a whole lot about this yet... I was thinking of using an interrupt
(possibly on TMR0) to signal when to poll, but I need to examine this a
little more closely. I guess I also need to know how to do a
data-carrier-detect... Any recommended reading?

-James Jefferson KB0THN
jjeffers@deskmedia.com
http://www.deskmedia.com/~jjeffers/

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139. [picsig] Where is software for PIC-E?

From: Dave Mullenix <djmullen@facstaff.wisc.edu>
Date: Wed, 10 Mar 1999 18:38:08 -0600
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-10104-1999.03.10-18.40.25--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Is the software for the PIC-E available for download? I'm especially
interested in the CRC routines for AX-25.

TIA,
Dave, N9LTD

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140. [picsig] Re: Where is software for PIC-E?

From: "Steven R. Bible" <srbible@gate.net>
Date: Wed, 10 Mar 1999 20:08:56 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-10110-1999.03.10-19.10.54--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 06:38 PM 3/10/99 -0600, you wrote:
>Is the software for the PIC-E available for download? I'm especially
>interested in the CRC routines for AX-25.

Dave,

Man, this is becoming a FAQ. I can see that we need a link from the PIC-E
web page.

Take a look at

    ftp://ftp.tapr.org/picsig/

there are three subdirectories

 docs - PIC-E documentation
 software - software written for the PIC-E
 uploads - upload area for contributed software

- Steve, N7HPR
  n7hpr@tapr.org
  n7hpr@amsat.org

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141. [picsig] Re: Learning/Using 'C' for PIC Developement

From: Jeff King <jeff@aerodata.net>
Date: Wed, 10 Mar 1999 21:10:05 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-10118-1999.03.10-20.03.31--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Graeme Zimmer wrote:

>
> I let this topic slide past the first time, but........
>
> To me, programming PICs in "C" is ludicrous.....
>
> and yes I am a C programmer
>
> and yes I have a sophisticated C PIC compiler which I have used for a couple
> of projects.

Which 'sophisticated' C PIC compiler do you have? (note, price is not a good
milestone,
I looked at a number of them and at the time I did this, the cheapest one also
was the
best one)

> The PIC is a wonderfuly minimilistic beast which a good hardware hacker can
> work miracles with.
>
> In C it is a pathetic little creature.......
>
> Now to watch the flames.......

Flamebait, aye? Been here, done this, argued with numerous aged assembly
programmer
Dilberts at various auto companies.....assembly or die.... I know the whole
thing. Assembly
is a art form, real men program in assembly, it only could have been done in
assembly...
yadda yadda yadda.

Bottom line, is you use the best tool for the job. If your job is squeezing the
last byte out
of your ROM space, then assembly is the way to go. If time is an issue, often
'C' is the best
choice. Or I often mix the two, putting time critical routines in assembly and
the jellybean
text based I/O kinda stuff in 'C'.

BTW, MicroChip is coming out with some "C" enhanced versions of the PIC, a bit
larger
instruction set (optimized for C) and a bit deeper stack.

-Jeff

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142. [picsig] Re: Were's the (beefer) regulator?

From: "Eric R. Cook" <ericc@teleport.com>
Date: Wed, 10 Mar 1999 18:07:24 -0800
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-10119-1999.03.10-20.09.28--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Steve,

I just measured the current draw on my Tripmate. It looks to be 110 to 112mA. I guess that puts us into the 200mA, 5V regulator void you mentioned.

Would a 7805 generate that much heat if only delivering 200mA (assuming 12-14V input?) Maybe just having the pads available on the edge of the board would suffice (I'd be happy.) Then I could opt for one of those spendy regulators if I wanted to.

73,

Eric

-----Original Message-----
From: Steven R. Bible <srbible@gate.net>
To: TAPR PIC Development Special Interest Group <picsig@lists.tapr.org>
Date: Monday, March 08, 1999 4:30 PM
Subject: [picsig] Were's the (beefer) regulator?

>
>
>> ----------
>> From: Steven R. Bible[SMTP:SRBIBLE@GATE.NET]
>> Sent: Monday, March 08, 1999 4:18:20 PM
>> To: TAPR PIC Development Special Interest Group
>> Subject: [picsig] Were's the (beefer) regulator?
>> Auto forwarded by a Rule
>>
>>One more suggestion on Tripmate integration. How about adding pads for a
>>(beefier) 7805 regulator and a jumper to send +5V up pin 9 of the GPS DB-9.
>>Then, the PIC-E, Tripmate and an HT would make a nice simple tracker
>>package.
>
>
>Can someone tell us how much current the Tripmate draws? And while we're
>at it, how about the Earthmate?
>
>I've been looking at the Garmin GPS35-LVS, which the docs say 120 mA
>typical and 140 mA max. What is it in real life?
>
>And do you want both the PIC-E and Tripmate to operate from batteries or
>automobile?
>
>This will help pick the best regulator for the job.
>
>FWIW - The 7805 is a dog of a regulator. For one it takes a lot of current
>just to run it. Thus it is a bad choice for battery operations. It also
>heats up when the input voltate is >> that 5V. Thus if you connect it to
>the automobile voltage of 13.8V, the 7805 drops the 8.8V as heat. The only
>advantage to the 7805 is that it is easy to hook up and it's cheap.
>
>Others on the list wanted the switching type regulator that is on the
>DGPSIB, VP and Garmin interface boards. This is Doug McKinney's KC3RL
>design. It works extremely well. The work horse chip is a buck regulator.
> The copper foil beneth it acts as the necessary heat sink. It can take
>upto 40V input. The disadvantage to Doug's design is that it requires 2
>capacitors, 1 inductor, zener, and the regulator chip.
>
>One regulator that I keep coming back to is the Power Trends
>(http://www.powertrends.com) PT5101 (5V version) integrated switching
>regulator (ISR). It has the same pinout as the 7805, so it's a drop in
>replacment. It is physically a little larger than the 7805, so you need to
>make sure there's room before dropping it in place. No heat sink and it's
>a switching regulator and it works great with batteries. Good to 1 amp.

>The draw back is it is expensive. You can order them through Digi-Key and
>Qty 1 they are $13.13. But it is worth it.
>
>In my research of voltage regulators, it's funny to note that there are two
>classes of current ratings: 100 mA or 1 amp. Anyone know of 200, 300, or
>500 mA regulators that have a low queisent (sp?) voltage?
>
>
>- Steve, N7HPR
> n7hpr@tapr.org
> n7hpr@amsat.org
>
>
>---
>You are currently subscribed to picsig as: eric.r.cook@tek.com
>To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org
>

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

143. [picsig] Re: Learning/Using 'C' for PIC Developement

From: Bob Johnson <bobj@atlantic.net>
Date: Wed, 10 Mar 1999 22:51:01 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-10129-1999.03.10-21.59.55--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>>I've noticed that quite a few of you are using 'C' for development with the
>>PIC controllers. I've only used assembly (mostly the Parallax/Tech-Tools
>>'version'). Any suggestions on what would be a good way to go about
>>learning 'C' for this type of development?
>
>Figure out a project you want to accomplish, buy the compiler, and start
>writting. I've found that looking at other people's code doesn't really
>help - just immerse yourself in a project. A beginners 'C' book can be
>helpful, don't expect to learn 'C' just by reading.
>

When I decided to learn C (about 10 years ago) I looked at all the books I
could find and decided the easiest one to learn from was the "bible" of C
programming: "The C Programming Language" be Kernighan & Ritchie (commonly
referred to as "K & R". Once in a while I browse through beginner's books
and I still haven't seen one that I'd recommend over K & R, although
someone else may know of one. Make sure you get the Second Edition.

I'd also suggest ignoring C++ if all you want to do is program PICs. I
don't even know if any PIC "C" compilers incorporate C++ features.

Good luck!

-- Bob Johnson
   WB4JCM

+---
| Bob Johnson
| bobj@cisi.com
+---

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144. [picsig] Re: Receiving PIC-E w/ software DCD doesn't work

From: Steve Dimse K4HG <k4hg@tapr.org>
Date: Wed, 10 Mar 1999 23:13:07 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-10133-1999.03.10-22.15.09--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On 3/10/99 7:28 PM James Jefferson (jjeffers@deskmedia.com) wrote:

>I've discovered that Kantronics TNC's (haven't tried other brands) are not
>able to copy my packets when using software DCD. When CD is set to internal
>everything works fine, but when on software the DCD light just flashes for
>a second and nothing is copied. This is not an isolated case, I've verified

>this on about six seperate TNC's, including the KPC-3, KPC-3 plus,
>KPC-9612, KPC-9612. I've only mentioned Kantronics because that is all I
>have access to.
>
>I'm sending 20 0x7E's prior to starting data, does this number need to be
>adjusted? How does the software DCD work? I've checked out the flipout()
>timming and John's delay_us(860) yeilds exactly 834 uS.
>
We had this problem with Byon's code just before we went public. The
software CD on the KPC-3, and the Kenwood TH-D7, seem to be more
sensitive than other TNCs. Byon's code works great for me on the KPC-3
software and the D7A.

I suspect another timing problem here...

Steve K4HG

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145. [picsig] Re: Receiving PIC-E w/ software DCD doesn't work

From: Jeff King <jeff@aerodata.net>
Date: Wed, 10 Mar 1999 23:33:27 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-10141-1999.03.10-22.26.52--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Steve Dimse K4HG wrote:

> On 3/10/99 7:28 PM James Jefferson (jjeffers@deskmedia.com) wrote:
>
> >I've discovered that Kantronics TNC's (haven't tried other brands) are not
> >able to copy my packets when using software DCD. When CD is set to internal
> <Clip>

>
> We had this problem with Byon's code just before we went public. The
> software CD on the KPC-3, and the Kenwood TH-D7, seem to be more
> sensitive than other TNCs. Byon's code works great for me on the KPC-3
> software and the D7A.

Bob Clements had a problem like this with his two way code he did for
PacComm...or something along those lines. Might want to ask him for
the details.

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146. [picsig] Re: Were's the (beefer) regulator?

From: Jeff King <jeff@aerodata.net>
Date: Wed, 10 Mar 1999 23:35:18 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-10142-1999.03.10-22.28.44--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

"Eric R. Cook" wrote:

>
>
> Would a 7805 generate that much heat if only delivering 200mA (assuming
> 12-14V input?)

14volt -5Volt = 9 volt drop across 7805
9V*0.2amp=1.8watts of heat

You would need a heatsink

-Jeff

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147. [picsig] Re: Receiving PIC-E w/ software DCD doesn't work

From: John Hansen <hansen@fredonia.edu>
Date: Wed, 10 Mar 1999 23:32:25 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-10144-1999.03.10-22.37.10--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 11:13 PM 3/10/99 -0500, you wrote:
>On 3/10/99 7:28 PM James Jefferson (jjeffers@deskmedia.com) wrote:
>
>>I've discovered that Kantronics TNC's (haven't tried other brands) are not
>>able to copy my packets when using software DCD. When CD is set to internal
>>everything works fine, but when on software the DCD light just flashes for
>>a second and nothing is copied. This is not an isolated case, I've verified
>>this on about six seperate TNC's, including the KPC-3, KPC-3 plus,
>>KPC-9612, KPC-9612. I've only mentioned Kantronics because that is all I
>>have access to.
>>
>>I'm sending 20 0x7E's prior to starting data, does this number need to be
>>adjusted? How does the software DCD work? I've checked out the flipout()
>>timming and John's delay_us(860) yeilds exactly 834 uS.
>>

This is the value I get from MPLAB's stopwatch as well. Since 833 uS would
be perfect, I figured this was pretty close. There is a 5 uS swing or so
when doing a flag, but this seemed like a trivial amount to me. I could
play with this to see what direction it needs to be adjusted, but I don't
have any kantronics equipment to test it with. If you'd like to try
playing with the values a bit and seeing if you can find something that is
more to Kantronic's liking, I'd be very interested in the results.

>We had this problem with Byon's code just before we went public. The
>software CD on the KPC-3, and the Kenwood TH-D7, seem to be more
>sensitive than other TNCs. Byon's code works great for me on the KPC-3
>software and the D7A.
>
>I suspect another timing problem here...
>
>Steve K4HG
>
>---
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---
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148. [picsig] Re: Receiving PIC-E w/ software DCD doesn't work

From: John Hansen <hansen@fredonia.edu>
Date: Wed, 10 Mar 1999 23:42:31 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-10147-1999.03.10-22.47.11--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 06:28 PM 3/10/99 -0600, you wrote:
>Hello everyone,
>
>I've discovered that Kantronics TNC's (haven't tried other brands) are not
>able to copy my packets when using software DCD. When CD is set to internal
>everything works fine, but when on software the DCD light just flashes for
>a second and nothing is copied. This is not an isolated case, I've verified
>this on about six seperate TNC's, including the KPC-3, KPC-3 plus,
>KPC-9612, KPC-9612. I've only mentioned Kantronics because that is all I
>have access to.
>
>I'm sending 20 0x7E's prior to starting data, does this number need to be
>adjusted? How does the software DCD work? I've checked out the flipout()
>timming and John's delay_us(860) yeilds exactly 834 uS.
>

I had another thought. Byon was having trouble having his packets decoded
a the DCC, but mine seemed to be working. Byon concluded that it might be

related to this timing issue. After this timing problem was discovered, I
went back and looked at the stopwatch very carefully and adjusted the delay
up to 860 (it was at 850). Perhaps I should have left it at the lower
level, since it was working with whatever equipment was being used at the
DCC. Try setting it back to 850 and see if the kantronics likes that any
better.

John, W2FS

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149. [picsig] Re: Learning/Using 'C' for PIC Developement

From: Jeff King <jeff@aerodata.net>
Date: Wed, 10 Mar 1999 23:56:39 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-10148-1999.03.10-22.50.02--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Bob Johnson wrote:

>
> When I decided to learn C (about 10 years ago) I looked at all the books I
> could find and decided the easiest one to learn from was the "bible" of C
> programming: "The C Programming Language" be Kernighan & Ritchie (commonly
> referred to as "K & R". Once in a while I browse through beginner's books
> and I still haven't seen one that I'd recommend over K & R, although
> someone else may know of one. Make sure you get the Second Edition.

Every 'C' programmer should have a copy of K&R. As Bob said, it
is the bible.

One of the best 'C' books I have, and it is more dog earred then K&R, is
"Practical C Programming" by Steve Qualline, published by O'Reilly &
Associates. I have the 2nd edition but I think they came out with a new
one. This book is very well written and much easier to follow then K&R.
This one has a Cow on the front.... don't confuse it with Qualline's other
book on C++ (also from O'Reilly).

Another good one to have for the embedded programmer, is "Programming
Microcontrollers in C" by Ted Van Sickle. This book mostly covers 68HC05's
and 68HC11's (Van Sickle works for Motorola), but gives lots of hints to
the programmer working on the small system (like the PIC) when it comes to
'C'. Van Sickle touches on some of the mistakes that "C" programmers coming
from the PC and MAC world make when trying to transition from these 'fat'
systems to a small microcontroller. I ended up getting my copy of this book
(for free) at a Motorola C seminar, taught by none less then Van Sickle himself.
Check at your Motorola sales office as this was a good seminar to go to.
Otherwise
Amazon has this book or I have even seen it at Borders recently.

-Jeff

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150. [picsig] Re: Receiving PIC-E w/ software DCD doesn't work

From: "Byon Garrabrant" <byon@mail.com>
Date: Wed, 10 Mar 1999 23:08:11 -0800
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-10189-1999.03.11-01.13.54--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>>>I've discovered that Kantronics TNC's (haven't tried other brands) are
>>>not able to copy my packets when using software DCD. When CD is set to
...
>>We had this problem with Byon's code just before we went
>>public public. The software CD on the KPC-3, and the Kenwood
>>TH-D7, seem to be more sensitive than other TNCs. Byon's
>>code works great for me on the KPC-3
...
>I had another thought. Byon was having trouble having his
>packets decoded a the DCC, but mine seemed to be working.
>Byon concluded that it might be related to this timing issue.

Yes, | think Steve and John are correct. Due to a bug in an earlier
version of my code (before pice090) my 1200 baud timing was off,
and KPC's would only decode on CD internal, and not CD software.
This was a problem only with my code, not necessarily with John's
(GPSE-2).

If I remember correctly, and to show people how tolerant the TNC's
are not in software... :)

Before findng the bug, I was sending at 1220.7 baud and failed to
decode.

After finding the bug, I tried 1211.2 baud, 1201.9 baud, and 1192.7
baud, all of which worked in software. I left the code at 1201.9

So, the TNC could handle 0.9% error, but could not handle 1.7%
error. Keep in mind that my current timing is interrupt based, and
should error only due to resinator accuracy (0.5%).

>> I've checked out the flipout() timming and John's
>> delay_us(860) yeilds exactly 834 uS.

If your code is not interrupt based, and are not counting exact
cycles paying very close attention to the timing, and compensating
for misc code logic (bit stuffing, CRC, bytes, etc.), you could be
introducing error. For example, there is usually less code overhead
between sending bits in a byte, than there is getting the next byte
to send. If you always use a constant delay (860) after each bit,
the final bit spacing could be inaccurate, The last bit of a byte will
last longer than all other bits. This may be negligable, but my
0.9% error anly amounts to about 7 us, so you could be close!!

James, which code were you using when you found the problem?
Mine, John's or your own?

>>>I'm sending 20 0x7E's prior to starting data, does this
>>>number need to

The number of starting flags corresponds to the TXDELAY
function of TNCs. The amount of time (number of flags) needed
depends on the transmitting and receiving radio (PLL lock times,
mostly) I used 40 flags for an un-keyed radio, and only 5, I think,
for a packet burst after a voice transmission. If unsure, set it high
and slowly bring it down.

Byon

_____
 Byon Garrabrant N6BG byon@mail.com

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151. [picsig] Re: MX614 bit re-timing

From: "Hall, Erik (Exchange)" <Erik.Hall@Bear.COM>
Date: Thu, 11 Mar 1999 09:14:00 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-10207-1999.03.11-08.18.13--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

The bit-retiming feature would not work for reception, due to it's looking
for the start and stop bits used in asynchronous serial. It would, however,
work fine for transmitting data. When sending data, the MX-16 doesn't look
for start and stop bits, it merely buffers and retimes bits from the input
pin. Since the PIC-E only transmits data, the re-timing would work out
great.

-Erik
N2NRP

> -----Original Message-----
> From: Steven R. Bible [SMTP:srbible@gate.net]
> Sent: Wednesday, March 10, 1999 2:18 PM
> To: TAPR PIC Development Special Interest Group
> Subject: [picsig] Re: MX614 bit re-timing

>
> At 10:13 AM 3/10/99 -0500, you wrote:
> >Just out of curiosity, why isn't the bit re-timing feature in the MX614
> >used? The clock line could be tied to one of the interrupt lines on the
> PIC,
> >and used for sending out the packets...
> >
>
> Read carefully the data sheet on the MX614. The bit retiming feature
> allows the MX614 to do plan 'ol serial format. AX.25 is not. Plus AX.25
> 1200 bps FSK is NRZI.
>
>
> - Steve
> (n7hpr@tapr.org)
> (n7hpr@amsat.org)
>
>
> ---
> You are currently subscribed to picsig as: erik.hall@bear.com
> To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

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152. [picsig] Re: MX614 bit re-timing

From: Jeff King <jeff@aerodata.net>
Date: Thu, 11 Mar 1999 09:52:44 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-10212-1999.03.11-08.46.05--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

"Hall, Erik (Exchange)" wrote:

> The bit-retiming feature would not work for reception, due to it's looking
> for the start and stop bits used in asynchronous serial. It would, however,
> work fine for transmitting data. When sending data, the MX-16 doesn't look
> for start and stop bits, it merely buffers and retimes bits from the input
> pin. Since the PIC-E only transmits data, the re-timing would work out
> great.

Which appears to be a solution to the other thread "Receiving PIC-E
w/ software DCD doesn't work",   correct?

-Jeff

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153. [picsig] Re: MX614 bit re-timing

From: "Hall, Erik (Exchange)" <Erik.Hall@Bear.COM>
Date: Thu, 11 Mar 1999 10:18:08 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-10218-1999.03.11-09.22.56--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Yes, it would solve this problem as well. The transmitted bits would be
perfectly timed, without the use of timing loops and without having to count
cycles in the code. It would also free up the timer and its interrupt for
use in the receiving routines.

-Erik

> -----Original Message-----
> From: Jeff King [SMTP:jeff@aerodata.net]

> Sent: Thursday, March 11, 1999 9:53 AM
> To: TAPR PIC Development Special Interest Group
> Subject: [picsig] Re: MX614 bit re-timing
>
> "Hall, Erik (Exchange)" wrote:
>
> > The bit-retiming feature would not work for reception, due to it's
> looking
> > for the start and stop bits used in asynchronous serial. It would,
> however,
> > work fine for transmitting data. When sending data, the MX-16 doesn't
> look
> > for start and stop bits, it merely buffers and retimes bits from the
> input
> > pin. Since the PIC-E only transmits data, the re-timing would work out
> > great.
>
> Which appears to be a solution to the other thread "Receiving PIC-E
> w/ software DCD doesn't work",   correct?
>
> -Jeff
>
>
>
> ---
> You are currently subscribed to picsig as: erik.hall@bear.com
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activity contained in this communication.
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154. [picsig] Re: Where is software for PIC-E?

From: Bob Nielsen <nielsen@primenet.com>
Date: Thu, 11 Mar 1999 10:14:53 -0700 (MST)
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-10235-1999.03.11-11.16.48--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

That makes sense. Also, I've put in links from the software_lib directory
to a number of the SIG software areas. I just added one for picsig as
well.

Bob

On Wed, 10 Mar 1999, Steven R. Bible wrote:

> At 06:38 PM 3/10/99 -0600, you wrote:
> >Is the software for the PIC-E available for download? I'm especially
> >interested in the CRC routines for AX-25.
>
>
> Dave,
>
> Man, this is becoming a FAQ. I can see that we need a link from the PIC-E
> web page.
>
> Take a look at
>
>   ftp://ftp.tapr.org/picsig/
>
> there are three subdirectories
>
> docs - PIC-E documentation
> software - software written for the PIC-E
> uploads - upload area for contributed software
>
>
>

> - Steve, N7HPR
>   n7hpr@tapr.org
>   n7hpr@amsat.org
>
>
> ---
> You are currently subscribed to picsig as: nielsen@primenet.com
> To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org
>
>

Bob Nielsen   Internet: nielsen@primenet.com
Tucson, AZ   AMPRnet: w6swe@w6swe.ampr.org
DM42nh   http://www.primenet.com/~nielsen

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155. [picsig] Re: Were's the (beefer) regulator?

From: Ray Vaughan <ray@rayvaughan.com>
Date: Thu, 11 Mar 1999 12:21:25 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-10237-1999.03.11-11.23.29--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 06:07 PM 3/10/99 -0800, you wrote:
>Steve,
>
>I just measured the current draw on my Tripmate. It looks to be 110 to
>112mA. I guess that puts us into the 200mA, 5V regulator void you
>mentioned.
>
>Would a 7805 generate that much heat if only delivering 200mA (assuming
>12-14V input?) Maybe just having the pads available on the edge of the
>board would suffice (I'd be happy.) Then I could opt for one of those
>spendy regulators if I wanted to.

For what it's worth, I run my Tripmate powered out of the KPC3. Within a
DB-9 to DB25 shell, I installed a 7805 as the Tripmate supply. I have a
nut and bolt holding an external heat sink. The heat sink gets warm, but
nothing too bad. I've been using it in the car full time for at least a
year. I would not suggest doing it without a sink. Looks a bit silly to
have a heat sink on a serial adapater, but it works. I tell people there's
so much data squeezing in it that it gets warm ;-) If I had to do it all
over again, I would try to find a 7806. I think I heard that 5v in is on
the edge. I've also heard of putting a diode on the ground leg to get an
additional 0.7v. above ground.

I haven't seen the Pic-E yet, but if there is going to be a place for a
7805, please make it on an outside edge with the heat sink contact facing
out. That should do the trick.

Ray, KD4BBM

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156. [picsig] Re: Were's the (beefer) regulator?

From: Jeff King <jeff@aerodata.net>
Date: Thu, 11 Mar 1999 13:00:26 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-10240-1999.03.11-11.53.48--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Ray Vaughan wrote:

> If I had to do it all
> over again, I would try to find a 7806. I think I heard that 5v in is on
> the edge. I've also heard of putting a diode on the ground leg to get an
> additional 0.7v. above ground.

I do that all the time. I generally also put a 10K resistor across the diode
and a 0.1uf cap.... someone once told me they put the resistor across
the diode to make sure some current flows (??) and of course the cap
is across the diode to give the 7805 a good AC ground. In a pinch, this

works fine....

-Jeff

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157. [picsig] Re: Problems I've run into

From: "Mark Grennan" <mgrennan@fleming.com>
Date: Thu, 11 Mar 1999 14:33:22
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-10254-1999.03.11-14.35.22--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On 03/10/99, "Duncan Orthner <orthner@idirect.com>" wrote:
>
> When Tripmate powers up it sends three NMEA messages (PRWIRID, GPRMC, and
> PRWIZCH) then keeps sending a "ASTRAL" string.It requires the computer
> to respond to the "ASTRAL" string by sending a "ASTRAL" string to the unit.
> After this exchange the unit works like a normal NMEA unit. This limits
> it usefulness with other products (but see below).
>

Thanks Good info.

I havn't got this to work yet. But I did find my problem. I had not put
jumper in place that supplies a 5v signal to the Tripmate.

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158. [picsig] Re: Problems I've run into

From: "Mark Grennan" <mgrennan@fleming.com>
Date: Thu, 11 Mar 1999 14:36:43
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-10257-1999.03.11-14.38.44--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On 03/10/99, "Steve Dimse K4HG <k4hg@tapr.org>" wrote:
> There is a jumper on the PIC to tie the rxd and txd lines together for
> this purpose.
>

I had this jumper in place, it was the other jumper that was missing.

Silly me.

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159. [picsig] Re: Problems I've run into

From: John Hansen <hansen@fredonia.edu>
Date: Thu, 11 Mar 1999 15:37:16 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-10258-1999.03.11-14.42.45--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 02:33 PM 3/11/99 +0000, you wrote:
>On 03/10/99, "Duncan Orthner <orthner@idirect.com>" wrote:
>>
>> When Tripmate powers up it sends three NMEA messages (PRWIRID, GPRMC, and
>> PRWIZCH) then keeps sending a "ASTRAL" string.It requires the computer
>> to respond to the "ASTRAL" string by sending a "ASTRAL" string to the unit.
>> After this exchange the unit works like a normal NMEA unit. This limits
>> it usefulness with other products (but see below).
>>
>
>Thanks Good info.
>
>I havn't got this to work yet. But I did find my problem. I had not put
>jumper in place that supplies a 5v signal to the Tripmate.
>

Yep, that will do it.... That is the signal that turns it on!

John, W2FS

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160. [picsig] RE: Need one more pin on JP3

From: "Mark Grennan" <mgrennan@fleming.com>
Date: Thu, 11 Mar 1999 14:46:1
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-10259-1999.03.11-14.48.01--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On 03/08/99, ""Steven R. Bible" <srbible@gate.net>" wrote:
> The method above, tying all three pins of J4/J5/J6 allows the PIC-E to
> sense and hold the PTT line. Mark, I'd be interested in hearing how your
> setup works. Does it act like a Mic-E as I descibed above?
>

I is working good. Both the PTT and audio are mixing well.

It does work like the MIC-E. The PIC sees the PTT. It then hold the PTT line low even thow the mic is holding it down too. When you let up on the mic, the PIC see that and continues to hold it low but doesn't see it's own signal. The diodes in the design are keeping this from happening.

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161. [picsig] Reset / Power on / Brown out

From: "Mark Grennan" <mgrennan@fleming.com>
Date: Thu, 11 Mar 1999 15:1:48
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-10262-1999.03.11-15.03.49--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I've notice the PIC doesn't always reset if you just turn the power off and on.

I'm been working with the PICE090 code and this has been a problem. I was confused for a time and didn't think the board was working. After adding in the "Three bink on reset" from the Diag code to the PICE090 code I found it wasn't reseting.

I then added a single blink to the "Get location" subroutine and found my GPS wasn't working. After adding the jumper I forgot, the single blinks tell me the GPS is alive. Nice to know when you battaries died on the Tripmate.

Any way, On a production board, either a reset button and the "Three blinks" will be needed or some Power on Reset stuff. I vote for the "Three blinks".

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

162. [picsig] RE: Need one more pin on JP3

From: "Steven R. Bible" <srbible@gate.net>
Date: Thu, 11 Mar 1999 17:57:19 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-10289-1999.03.11-16.59.18--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 02:46 PM 3/11/99, you wrote:
>On 03/08/99, ""Steven R. Bible" <srbible@gate.net>" wrote:
>> The method above, tying all three pins of J4/J5/J6 allows the PIC-E to
>> sense and hold the PTT line. Mark, I'd be interested in hearing how your
>> setup works. Does it act like a Mic-E as I descibed above?
>>
>
>I is working good. Both the PTT and audio are mixing well.

>
>It does work like the MIC-E. The PIC sees the PTT. It then hold the PTT
>line low even thow the mic is holding it down too. When you let up on the
>mic, the PIC see that and continues to hold it low but doesn't see it's own
>signal. The diodes in the design are keeping this from happening.

Mark, this is a great break through. You'll perhaps found a solution to a
several year long problem that was thought not easily solve-able.

Anyone else want to vouch for Mark's solution? If we can get an
independent verification, then this needs to be tried on the MIC-E. And if
that works then Mark deserves a medal! Hmmm, TAPR Medals, medal of
technical valor? Hmmm. Greg!

- Steve, N7HPR
  n7hpr@tapr.org
  n7hpr@amsat.org

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163. [picsig] Re: Reset / Power on / Brown out

From: "Steven R. Bible" <srbible@gate.net>
Date: Thu, 11 Mar 1999 17:59:47 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-10292-1999.03.11-17.02.17--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 03:01 PM 3/11/99, you wrote:
>I've notice the PIC doesn't always reset if you just turn the power off and
>on.
>
>I'm been working with the PICE090 code and this has been a problem. I was
>confused for a time and didn't think the board was working. After adding
>in the "Three bink on reset" from the Diag code to the PICE090 code I found
>it wasn't reseting.
>
>I then added a single blink to the "Get location" subroutine and found my
>GPS wasn't working. After adding the jumper I forgot, the single blinks
>tell me the GPS is alive. Nice to know when you battaries died on the
>Tripmate.
>
>Any way, On a production board, either a reset button and the "Three
>blinks" will be needed or some Power on Reset stuff. I vote for the "Three
>blinks".

I thought the Byon's 090 code had the three blinks at start up?

Jeff, you mentioned a RC circuit on the MCLR line. Can you suggest some
values that we all can try? I hesitate to add a microcontroller supervisor
chip because that drives the cost up. If a simple RC circuit can suffice.

- Steve, N7HPR
  n7hpr@tapr.org
  n7hpr@amsat.org

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164. [picsig] Re: Reset / Power on / Brown out

From: Jeff King <jeff@aerodata.net>
Date: Thu, 11 Mar 1999 20:41:07 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-10322-1999.03.11-19.34.31--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

"Steven R. Bible" wrote:

> Jeff, you mentioned a RC circuit on the MCLR line. Can you suggest some
> values that we all can try? I hesitate to add a microcontroller supervisor

> chip because that drives the cost up. If a simple RC circuit can suffice.
>

I used a 2N3906 (0.03) for my reset chip, I had a voltage divider on the
base of the transistor (4.7K to VCC, 22K to ground). The emitter of the
transistor was hooked to Vcc. The collector was hooked to the /RESET
pin of the PIC. /RESET was tied to ground through a 39K resistor. Total
cost for the circuit was 0.06 or so. I have about 2000 of these in the field
and they work well. This was on a 16C54, I later went to a 16C621 which
has a built in brownout.

This is basically out of the databook. In a separate e-mail I am sending you
a DXF file of the circuit in which the reset was (exported from Orcad).

-Jeff

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165. [picsig] Re: Reset / Power on / Brown out

From: "Byon Garrabrant" <byon@mail.com>
Date: Thu, 11 Mar 1999 22:30:07 -0800
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-10367-1999.03.12-00.36.08--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On 11 Mar 99, at 17:59, Steven R. Bible wrote:

> I thought the Byon's 090 code had the three blinks at start up?

No, I forgot to add that before my last update. I was waiting to see
if there were any other fixes before I uploaded 092. Any comments
from the users?

Byon

____
 Byon Garrabrant N6BG byon@mail.com

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166. [picsig] Moscow APRS module

From: Karen Tadewosyan <karen@ampr.demos.su>
Date: Fri, 12 Mar 1999 11:23:03 +0300
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-10373-1999.03.12-02.22.51--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi,

I am glad to find out this project. We (Alexandr, RX3ARH and me, RA3APW)
have begun the similar project of creation of the device for Moscow APRS
network in May, 1998.

In the present moment the device similar to the project PICE is ready.
We have named it of STM (System Telemetry Module). The detailed
information on http:// ra3apw.demos.su/eng/stm/index.html.

Features: - 16 digital inputs
          - 8 analog inputs
          - 1 counter
          - GPS protocol support (NMEA, TAIP)
          - Serial RS-232 devices support
          - Periodic and alert messages
          - RF 1200 bps AX.25 link
          - Career Sense
          - Multiple Access to RF link
          - GPS slot time
          - Power saving mode
          - Software configuration

Is used chips PIC16C77, 24LC04, CD4049, 78N05. The size of the printed
circuit board of 82*46 mm (SMD).

Karen, ra3apw

--
Karen Tadewosyan   Tel: +7 (095) 956-13-94
Chief of technical department   Fax: +7 (095) 956-15-21
Compas+Radio   Email: ra3apw@ampr.demos.su
Moscow   http://www.compas-r.ru
Russia   http://ra3apw.demos.su
                                          ICQ: 4752559

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167. [picsig] Stand-Alone-Operation of MX614

From: Klaus Hirschelmann <k.hirschelmann@mainz.netsurf.de>
Date: Fri, 12 Mar 1999 15:24:29 -0800
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-10387-1999.03.12-08.42.14--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hello,
to replace conventional TNCs for use with GPS-NMEA-Data, i have realized
simple decoders for AX.25-UI-Transmissions. Currently there is one
version detecting all strings starting with "$GP" and another one for
"$GPRMC" only. Future versions for decoding the compressed APRS-Format
are planned. The microcontroller being used is not a PIC. I am only
familar with MCS51-Assembler-Code.
My Modem-Chip is the no longer manufactured "TCM3105". This Chip is
still available without problems, but i have a bad feeling when making
PCB-Layouts for it. So maybe the "MX614" could be the Type for
replacement.

My question is :
Is there any experience on using this chip as a 1200
Baud-Stand-Alone-AFSK-Decoder (without control by microcontroller)?
According to the Data-Sheet, both control inputs M0 and M1 need to have
"0"-Level for RX-Mode and 20mS of "H"-Level when starting operation.
Maybe this can be realized by using a Pull-Down-Resistor and an
Elektrolyth-Capacitor connected to Vcc.

Klaus
DJ7OO

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168. [picsig] Re: Reset / Power on / Brown out

From: Mark Grennan <mgrennan@mail.fleming.com>
Date: Fri, 12 Mar 1999 09:32:20 -0600
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-10393-1999.03.12-09.34.26--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Jeff King Wrote

 > I used a 2N3906 (0.03) for my reset chip, I had a voltage divider on the
 > base of the transistor (4.7K to VCC, 22K to ground). The emitter of the
 > transistor was hooked to Vcc. The collector was hooked to the /RESET
 > pin of the PIC. /RESET was tied to ground through a 39K resistor.

I like this. But how does it work? Collector to /RESET?

I think I'd like a reset button but I'd guess it cost more the $0.06.

Steven R. Bible Wrote

 > I thought the Byon's 090 code had the three blinks at start up?

No. The copy on the web site didn't. And I like them.

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169. [picsig] New idea/old idea

From: Mark Grennan <mgrennan@mail.fleming.com>
Date: Fri, 12 Mar 1999 09:44:47 -0600
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-10394-1999.03.12-09.46.52--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

The idea of a MIC-E gave me an ide to use cellphone technology on repeter links.

Using a hand full of pic-e's you could build a multi freq (low power) station that
would transmit the data between cells/repeater links and pass you off from cell to
cell.

I know it would require a radio with computer input to change freq.

I know this is a gross over simplifcation but I thought I'd start some discusion.

Also, has anyone thought about transmiting the data at the start of a key.   The ID
could be used as a new from of "Tone encoding" and or maybe create the ultimate in
closed repeter systems. My buddy the repeater expert says it would be easy to cut
the data out of the audio with audio delays.

Just a few thoughts.

Mark Grennan KD5AMB
http://www.grennan.com/

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170. [picsig] Re: New idea/old idea

From: Jim Maiullo <jimmaiul@home.com>
Date: Fri, 12 Mar 1999 11:03:38 -0200
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-10396-1999.03.12-10.02.42--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Mark,
A three chip computer controlled receiver (Double Conversion receiver + PLL chip +
PIC16C73) is described in February 99 QST magazine.
I'm putting one together for use with a 9600 baud packet receiver. Parts + CKT board
should be less than $60.
Article by Steve Hageman.

Jim Maiullo

Mark Grennan wrote:

> The idea of a MIC-E gave me an ide to use cellphone technology on repeter links.
>
> Using a hand full of pic-e's you could build a multi freq (low power) station that
> would transmit the data between cells/repeater links and pass you off from cell to
> cell.
>
> I know it would require a radio with computer input to change freq.
>
> I know this is a gross over simplifcation but I thought I'd start some discusion.
>
> Also, has anyone thought about transmiting the data at the start of a key.   The ID
> could be used as a new from of "Tone encoding" and or maybe create the ultimate in
> closed repeter systems. My buddy the repeater expert says it would be easy to cut
> the data out of the audio with audio delays.
>
> Just a few thoughts.
>
> Mark Grennan KD5AMB
> http://www.grennan.com/
>
> ---
> You are currently subscribed to picsig as: jimmaiul@home.com
> To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

---
You are currently subscribed to picsig as: lyris.picsig@tapr.org
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171. [picsig] Re: Reset / Power on / Brown out

From: Jeff King <jeff@aerodata.net>
Date: Fri, 12 Mar 1999 11:36:00 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-10404-1999.03.12-10.29.19--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Mark Grennan wrote:

> Jeff King Wrote
>
> > I used a 2N3906 (0.03) for my reset chip, I had a voltage divider on the
> > base of the transistor (4.7K to VCC, 22K to ground). The emitter of the
> > transistor was hooked to Vcc. The collector was hooked to the /RESET
> > pin of the PIC. /RESET was tied to ground through a 39K resistor.
>
> I like this. But how does it work? Collector to /RESET?

Look at   ftp://ftp.tapr.org/picsig/docs/pic16f84/16f84.pdf

On page 46, figure 8-15 Brownout protection circuit 2

The transistor does not put it in reset. The transistor keeps
it out of reset. Its a PNP and a pulldown resistor will put
the F84 in reset if the transistor is not biased on.

I tried both the zener diode version and the resistor divider
method (RDM). RDM was good enough and saved the .15
or so the Zener cost.

-Jeff

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172. [picsig] Re: New idea/old idea

From: John Hansen <hansen@fredonia.edu>
Date: Fri, 12 Mar 1999 11:33:52 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-10405-1999.03.12-10.40.00--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 09:44 AM 3/12/99 -0600, you wrote:
>The idea of a MIC-E gave me an ide to use cellphone technology on repeter
>links.
>
>Using a hand full of pic-e's you could build a multi freq (low power)
>station that
>would transmit the data between cells/repeater links and pass you off from
cell
>tocell.
>
>I know it would require a radio with computer input to change freq.
>>I know this is a gross over simplifcation but I thought I'd start some
>discusion.
>
>Also, has anyone thought about transmiting the data at the start of a key.
> The ID
>could be used as a new from of "Tone encoding" and or maybe create the
>ultimate in
>closed repeter systems. My buddy the repeater expert says it would be easy
>to cut
>the data out of the audio with audio delays.
>

I'm currently finishing up work on a project that might interest you. I've
developed a server that will respond to requests for URL's and broadcast
webpages (either raw, or reformated without the HTML tags) as AX.25 UI frames.
While this will in theory allow someone to do web-browsing in their car, that's
not the main reason that I developed it. Rather, it is a means to broadcast
digital information of any type to mobile units.   One thing I'd like to do
with this is to develop a web page that would be a repository for information

on who is currently on which repeater. This could then be broadcast to all
mobile units and be displayed on a small dashboard mounted LCD display (or read
out loud using a voice synthesis unit). While this wouldn't automatically hand
off users between cells, it would at least allow folks to manually follow
someone from repeater to repeater.

John, W2FS

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173. [picsig] Re: Stand-Alone-Operation of MX614

From: John Hansen <hansen@fredonia.edu>
Date: Fri, 12 Mar 1999 11:38:21 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-10408-1999.03.12-10.53.03--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>
>My question is :
>Is there any experience on using this chip as a 1200
>Baud-Stand-Alone-AFSK-Decoder (without control by microcontroller)?
>According to the Data-Sheet, both control inputs M0 and M1 need to have
>"0"-Level for RX-Mode and 20mS of "H"-Level when starting operation.
>

The engineers at MX-COM insist this is the case to, but my experience with the
chip is that you can start it up in receive mode (without have M0 and M1 both
low first) and it seems to work fine.

John, W2FS

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174. [picsig] Re: Stand-Alone-Operation of MX614

From: Klaus Hirschelmann <k.hirschelmann@mainz.netsurf.de>
Date: Fri, 12 Mar 1999 19:18:00 -0800
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-10424-1999.03.12-12.34.47--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> >My question is :
> >Is there any experience on using this chip as a 1200
> >Baud-Stand-Alone-AFSK-Decoder (without control by microcontroller)?
> >According to the Data-Sheet, both control inputs M0 and M1 need to
> >have "0"-Level for RX-Mode and 20mS of "H"-Level when starting > >operation.

> The engineers at MX-COM insist this is the case to, but my experience
> with the chip is that you can start it up in receive mode (without
> have M0 and M1 both low first) and it seems to work fine.
>
> John, W2FS
>
OK John, meanwhile i have learned the MX614 in Europe is available as
FX614 from CML (Consumer Microcircuits Limited). I am going to order
some pieces from our national distributer and report the results later.

Klaus,DJ7OO

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175. [picsig] Re: Moscow APRS module

From: "Jeff King" <jeff@aerodata.net>
Date: Fri, 12 Mar 1999 13:50:52 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Cc: <picsig@lists.tapr.org>
Message-ID: <LYR6890-10428-1999.03.12-12.53.36--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi Karen:

>Karen Tadewosyan <karen@ampr.demos.su> said:

> In the present moment the device similar to the project PICE is ready. We
> have named it of STM (System Telemetry Module). The detailed information
> on http:// ra3apw.demos.su/eng/stm/index.html.

Are you making any of the source available for the PIC? Your
documentation looked good.

> Features: - 16 digital inputs
>   - 8 analog inputs
>   - 1 counter
>   - GPS protocol support (NMEA, TAIP)

You should know, I heard Trimble was no longer going to support
TAIP, opting to go just with NMEA and TSIP. I remember hearing
this from one of the Trimble reps but can't put my finger on it. You
might want to verify this. I do know Trimble's low end OEM board
(SK-8) no longer supports TAIP (the old SVeeSix-CM3 did).

>   - Serial RS-232 devices support
>   - Periodic and alert messages
>   - RF 1200 bps AX.25 link

I didn't see a modem chip listed..... are you doing the PWM tone
generation trick?

Looks good.

73

-Jeff King wb8wka

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176. [picsig] PicE090 packets don't look right.

From: "Mark Grennan" <mgrennan@fleming.com>
Date: Sat, 13 Mar 1999 0:38:51
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-10510-1999.03.13-00.40.57--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I don't have a packet modem yet (Anyone done the receive thing for pic-e
yet?) so I had a friend look at the output from my pic-e with his radio.
Here is what he saw.
[Sat Mar 13 00:01:37 1999]
Port 03: AX25: KD5AMB->SUTV9V v 0WIDE [invalid] [invalid] [invalid]*
<[invalid]
R0> [DAMA]

[Sat Mar 13 00:01:48 1999]
Port 03: AX25: KD5AMB->SUTV9V v 0WIDE [invalid] [invalid] [invalid]*
<[invalid]
R0> [DAMA]

[Sat Mar 13 00:01:58 1999]
Port 03: AX25: KD5AMB->SUTV9V v 0WIDE [invalid] [invalid] [invalid]*
<[invalid]
R0> [DAMA]

The ID is corrent thankfully but the rest doesn't look right. I'm not
trying to be sarcastic but this code does work somewhere, right?

Where should I start looking? What may I have configured wrong?

Mark Grennan KD5AMB

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

177. [picsig] Re: PicE090 packets don't look right.

From: "Steven R. Bible" <srbible@gate.net>
Date: Sat, 13 Mar 1999 10:39:52 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-10534-1999.03.13-09.41.48--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

```
At 12:38 AM 3/13/99, you wrote:
>I don't have a packet modem yet (Anyone done the receive thing for pic-e
>yet?) so I had a friend look at the output from my pic-e with his radio.
>Here is what he saw.


>[Sat Mar 13 00:01:37 1999]
>Port 03: AX25: KD5AMB->SUTV9V v 0WIDE [invalid] [invalid] [invalid]*
                                ^^^^^
                                Should be WIDE...

>From OPTIONS.ASM file...

        dt      "KD5AMB", D'0' + H'30'  ; callsign and digis
        dt      "WIDE  ", D'0' + H'30'  ; callsign and digis
        dt      "WIDE  ", D'0' + H'30'  ; callsign and digis
        dt      "WIDE  ", D'0' + H'30'  ; callsign and digis
        dt      "WIDE  ", D'0' + H'30'  ; callsign and digis
        dt      "WIDE  ", D'0' + H'30'  ; callsign and digis
        dt      0

The spacing and formating are critical.  Make sure the spaces in "WIDE  "
are there.  There are to be six spaces.  If you would like to know the
nitty-gritty, take a look at the AX25 spec at

    http://www.tapr.org/tapr/html/ax25.html

It's in PDF and downloadable.

I know this isn't a big help telling you to "look it up."  In simple
matters, you should be able to insert you callsign (as above), assmble,
load, and go.  You should not have to change the digipeater callsigns until
you are ready to custimize for your area.

The SUTV9V is okay, this is the compressed MIC-E format.

    http://www.tapr.org/tapr/html/mic-e-proto.html

The "OWIDE" isn't right nor what follows it.  I suspect something not right
in the OPTIONS.ASM file.  That's where I would look first.

References mentioned to help you learn! :-).


- Steve, N7HPR
  n7hpr@tapr.org
  n7hpr@amsat.org


---
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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org
```

178. [picsig] Re: Stand-Alone-Operation of MX614

From: "JOHANN BOTHA" <bothajp@netactive.co.za>
Date: Sat, 13 Mar 1999 18:15:28 +0200
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-10548-1999.03.13-10.12.18--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

```
-----Original Message-----
From: Klaus Hirschelmann <k.hirschelmann@mainz.netsurf.de>
To: TAPR PIC Development Special Interest Group <picsig@lists.tapr.org>
Date: Friday, March 12, 1999 8:33 PM
Subject: [picsig] Re: Stand-Alone-Operation of MX614


>> >My question is :
>> >Is there any experience on using this chip as a 1200
>> >Baud-Stand-Alone-AFSK-Decoder ( without control by microcontroller )?
>> >According to the Data-Sheet, both control inputs M0 and M1 need to
>> >have "0"-Level for RX-Mode and 20mS of "H"-Level when starting >
>operation.
>
```

>> The engineers at MX-COM insist this is the case to, but my experience
>> with the chip is that you can start it up in receive mode (without
>> have M0 and M1 both low first) and it seems to work fine.
>>
>> John, W2FS
>>
>OK John, meanwhile i have learned the MX614 in Europe is available as
>FX614 from CML (Consumer Microcircuits Limited). I am going to order
>some pieces from our national distributer and report the results later.
>
>Klaus,DJ7OO

Various modem chips can be found on the site of Consumer Microcircuits using
various types of technology. They also have application notes on most of the
chips as well as datasheets. Look at http://www.cmlmicro.co.uk/ for more
info

Johann Botha

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

179. [picsig] Re: PicE090 packets don't look right.

From: "Mark Grennan" <mgrennan@fleming.com>
Date: Sat, 13 Mar 1999 17:57:16
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-10572-1999.03.13-17.59.25--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On 03/13/99, ""Steven R. Bible" <srbible@gate.net>" wrote:

> I know this isn't a big help telling you to "look it up." In simple
> matters, you should be able to insert you callsign (as above), assmble,
> load, and go. You should not have to change the digipeater callsigns until
> you are ready to custimize for your area.
>
> The SUTV9V is okay, this is the compressed MIC-E format.

OK, Do I understand then that the MIC-E format is differnet then the APRS
packet? I'm trying to get the local APRS guys to hear my signal and then
see if I can catch it on the Internet through their gateway.

Am I being stupid agian?

Mark Grennan KD5AMB

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

180. [picsig] Jumper settings for ICOM-706

From: "Mark Grennan" <mgrennan@fleming.com>
Date: Sat, 13 Mar 1999 18:14:23
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-10574-1999.03.13-18.16.36--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Maybe veryone should post their Radio's jumper settings and I'll
put then in the FAQ.

Can you understand this diagram?

Using the cable that came with the kit, here is the
settings for an ICOM-706.

ICOM-706
              JP3 XX

        DIP   JP 564
   9 X----+ 0 8   -00
  10 0   +-X 7   -XX Ground
  11 0 +----X 6   -XX Tx Audio
  12 X-+   0 5   -00
  13 X----+ 0 4   X-X PTT

```
  14 0    +-X 3    -XX  Rx Audio
  15 0      0 2    -00
  16 0      0 1    -00

0 = Don't care
X = Signal
- = Not Used


---
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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org
```

181. [picsig] KISS is ultra simple

From: James Jefferson <jjeffers@deskmedia.com>
Date: Sun, 14 Mar 1999 10:25:55 -0600
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Cc: cjarvis@jarviscomputer.com
Message-ID: <LYR6890-10644-1999.03.14-10.28.11--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hello everyone,

If anyone is interested in sending frames to a KISS device here is a super
easy snipplet of code I whipped up this morning:

```
/* KISS Escape (and trap =) Characters */
#define FEND    0xc0
#define FESC    0xdb
#define TFEND   0xdc
#define TFESC   0xdd

void SendByte(byte data)
{
/* Check to see if the character needs to be escaped - per KISS spec*/

switch(data)
                {
                case FEND:
                        printf("%c%c",FESC,TFEND);
                case FESC:
                        printf("%c%c",FESC,TFESC);
                default:
                        putchar(data);  /* doesn't need to be escaped */
                }
}

void SendPacket(void)
{
byte i,j;

putchar(FEND);  /* Start KISS frame */
putchar(0);             /* Data frame on port 0 */

for (i = 0 ; i < SPACKET_LENGTH ; i++ ) /* do ... while != 0x00 would
                                                prolly be okay */
        {
        SendByte(read_eeprom(i));       /* grab the packet out of EEPROM */
        }

putchar(FEND);  /* End KISS frame */
}
```

You can just plug a KPC-9612 or whatever onto the PIC-E and fire away. The
CRC is handled on the the TNC, so that doesn't even need to be worried
about. I'm working on code for receiving AX.25 frames right now - the KISS
TNC makes a nice interface because I don't need to figure out the MX614
receive hardware in order to get some useful debugging done.

-James Jefferson KB0THN
jjeffers@deskmedia.com
http://www.deskmedia.com/~jjeffers/

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

182. [picsig] Re: PicE090 packets don't look right.

From: "Mark Grennan" <mgrennan@fleming.com>
Date: Sun, 14 Mar 1999 11:22:51
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-10648-1999.03.14-11.25.02--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On 03/13/99, ""Steven R. Bible" <srbible@gate.net>" wrote:

```
>
>       dt      "KD5AMB", D'0' + H'30'  ; callsign and digis
>       dt      "WIDE  ", D'0' + H'30'  ; callsign and digis
>       dt      "WIDE  ", D'0' + H'30'  ; callsign and digis
>       dt      "WIDE  ", D'0' + H'30'  ; callsign and digis
>       dt      "WIDE  ", D'0' + H'30'  ; callsign and digis
>       dt      "WIDE  ", D'0' + H'30'  ; callsign and digis
>       dt      0
```

I did exactly this and added a keyup delay of 800ms for my friend that has
a slow sq. and all was write with the world. He could read my becon.

Thanks.

I know the delay isn't needed for the Mic-E function. It make my friend
happy.

Mark Grennan KD5AMB

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

183. [picsig] Re: Moscow APRS module

From: Karen Tadewosyan <karen@ampr.demos.su>
Date: Mon, 15 Mar 1999 09:54:04 +0300
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-10754-1999.03.15-00.53.50--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Jeff King wrote:
>
> Are you making any of the source available for the PIC? Your
> documentation looked good.
>

Sorry, source code is not available.

>
> You should know, I heard Trimble was no longer going to support
> TAIP, opting to go just with NMEA and TSIP. I remember hearing
> this from one of the Trimble reps but can't put my finger on it. You
> might want to verify this. I do know Trimble's low end OEM board
> (SK-8) no longer supports TAIP (the old SVeeSix-CM3 did).
>

You are correct, we use Trimble's SVeeSix GPS that was bought here
three years ago.
What is the optimal (price/opportunities) GPS model for this moment?

> >   - Serial RS-232 devices support
> >   - Periodic and alert messages
> >   - RF 1200 bps AX.25 link
>
> I didn't see a modem chip listed..... are you doing the PWM tone
> generation trick?
>

Yes, PWM tone generation with no phase break.

Now we are designing 70 cm tx module (7 W) for our local APRS net.

Karen, ra3apw

--
Karen Tadewosyan   Tel: +7 (095) 956-13-94
Chief of technical department   Fax: +7 (095) 956-15-21

Compas+Radio
Moscow
Russia

Email: ra3apw@ampr.demos.su
http://www.compas-r.ru
http://ra3apw.demos.su
ICQ: 4752559

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184. [picsig] R17 Q1

From: "Richard C. Bandla" <rbandla@voicelogix.ca>
Date: Mon, 15 Mar 1999 12:34:19 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-10802-1999.03.15-11.35.52--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I was just rereading previous posts and the discussion about a diode in
series with R17. I cannot see any particular purpose to R17 once you put a
diode in there, nor can i see the purpose of the diode, if R17 isn't there.
Mine works if you leave them both out.

Anybody else?

Rick (VE3CVG/VA3RCB)

1355 Minogue Cres., Cumberland, ON, Canada K4C1B4
phone 613 833-2787 (home) fax 613 833 3032
phone 613 833-1950 (work)

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

185. [picsig] Re: Moscow APRS module

From: "Jeff King" <jeff@aerodata.net>
Date: Mon, 15 Mar 1999 12:47:28 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-10808-1999.03.15-11.50.22--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Karen Tadewosyan <karen@ampr.demos.su> wrote:

> Jeff King wrote:
> >
> > Are you making any of the source available for the PIC? Your
> > documentation looked good.
> >
>
> Sorry, source code is not available.

To bad, that is one of the things this SIG is all about...

>
> You are correct, we use Trimble's SVeeSix GPS that was bought here
> three years ago.
> What is the optimal (price/opportunities) GPS model for this moment?

It actually depends on your market. Of course, I mentioned the new
Trimble model, and I think they have good worldwide marketing.
Mitac has a 12 channel SiRF/L based board for under $100 USD,
Ashtech has the G8 model in the $90 range. It really depends what
you are doing. I've also seen some surplus SiRF based boards in
the $50-60 range. And then you have U-Blox in Switzerland, who
has some neat (but pricy) small GPS recievers (30cmX30cm)

Good luck with your design.

-Jeff King wb8wka

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

186. [picsig] RE: PicE090 packets don't look right.

From: Mark Grennan <mgrennan@mail.fleming.com>
Date: Mon, 15 Mar 1999 11:59:54 -0600
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-10811-1999.03.15-12.02.09--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

```
> On 03/13/99, ""Steven R. Bible" <srbible@gate.net>" wrote:
>
> >
> >       dt      "KD5AMB", D'0' + H'30'  ; callsign and digis
> >       dt      "WIDE  ", D'0' + H'30'  ; callsign and digis
> >       dt      "WIDE  ", D'0' + H'30'  ; callsign and digis
> >       dt      "WIDE  ", D'0' + H'30'  ; callsign and digis
> >       dt      "WIDE  ", D'0' + H'30'  ; callsign and digis
> >       dt      "WIDE  ", D'0' + H'30'  ; callsign and digis
> >       dt      0
>
```

Silly me, I modified the program and didn't RTFM.

I is working now. I filled out these all the lines so they where all six (6) char.

After I got it on the air, members of my local group started calling and asking me to take out so many WIDE's. They wanted a "RELAY " and a "WIDE ". This seems to work. I am showing up on the http://www.aprs.net/ web page.

Now the question seem to be, Why am I in the wrong place?

Mark Grennan KD5AMB

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

187. [picsig] RE: PicE090 packets don't look right.

From: Steve Dimse K4HG <k4hg@tapr.org>
Date: Mon, 15 Mar 1999 13:09:03 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-10816-1999.03.15-12.11.18--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On 3/15/99 12:59 PM Mark Grennan (mgrennan@mail.fleming.com) wrote:

>I is working now. I filled out these all the lines so they where all six
>(6) char.
>
>After I got it on the air, members of my local group started calling and
>asking me
>to take out so many WIDE's. They wanted a "RELAY " and a "WIDE ". This

Yes, perhaps the sample source code should comment out the last few digis to make it clear that you do not need to have all 6 of them in the path...

>seems to
>work. I am showing up on the http://www.aprs.net/ web page.
>
>Now the question seem to be, Why am I in the wrong place?
>
Well, you need to descibe the problem a little more. Where are you supposed to be, what does the GPS display say, and far off is the report? Are you using www.aprs.net, or map.aprs.net?

Steve K4HG

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

188. [picsig] RE: PicE090 packets don't look right.

From: Steve Dimse K4HG <k4hg@tapr.org>
Date: Mon, 15 Mar 1999 13:18:38 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-10818-1999.03.15-12.20.54--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On 3/15/99 1:09 PM Steve Dimse K4HG (k4hg@tapr.org) wrote:

>>Now the question seem to be, Why am I in the wrong place?

>>
>Well, you need to descibe the problem a little more. Where are you
>supposed to be, what does the GPS display say, and far off is the report?
>Are you using www.aprs.net, or map.aprs.net?
>
Well, maybe there is a quick solution without these answers. Looking at
your data on APRServe, the problem seems to be the dreaded dropped
character problem. Your data is only 7 characters before the comment
text, so one of them was an unprintable character that did not survive
the trip over the internet. In the next month or so all the IGates should
be updated so that Mic-E packets get converted before being sent to the
internet stream. Once these are all in place there will be no more
problem...

Steve K4HG

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

189. [picsig] Re: Moscow APRS module

From: Bob Nielsen <nielsen@primenet.com>
Date: Mon, 15 Mar 1999 11:23:00 -0700 (MST)
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-10821-1999.03.15-12.26.01--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Mon, 15 Mar 1999, Jeff King wrote:

> Karen Tadewosyan <karen@ampr.demos.su> wrote:
>
> > Jeff King wrote:
> > >
> > > Are you making any of the source available for the PIC? Your
> > > documentation looked good.
> > >
> >
> > Sorry, source code is not available.
>
> To bad, that is one of the things this SIG is all about...

Now if that attitude would only carry over to APRS....

Bob

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

190. [picsig] PIC-E background

From: "Richard C. Bandla" <rbandla@voicelogix.ca>
Date: Mon, 15 Mar 1999 14:31:14 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-10842-1999.03.15-13.32.45--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Sorry to bore you guys with these dumb questions.

I have been reviewing my MIM stuff which I got from Will Clements. Besides
being susceptible to any stray RF my MIM works quite well. It uses a 16C73
PIC as does the MIC-E. How do these devices compare to the 16F84
(technically) and is there a reason why the PIC-E does not use a 16C73? One
obvious guess is that the external modem chip offers more functionality
than the MIM design paarticularly on the RX side. Also, this modem chip
must make code development significantly easier with a lower load on the
CPU than in the 16C73. Anything else?

Is there a place to easily obtain data spec sheets on PICs. I have been
hunting around and find lots of info but no pictures/block diagrams, like
the CMOS pictures or old TTL pictures and data sheets. My DigiKey catalogue
seems to list hundreds of these things but it is very difficult to know
exactly what functions each provides. Someone has posted the names of a
couple of reference manuals - are these what I should buy if i want to see
what's inside?

My PIC-E is working and I am trying out various code that you guys make
available but am definately re-active rather than pro-active at this point.

Thanks again for all the info sharing.

Regards. Rick (VE3CVG)

1355 Minogue Cres., Cumberland, ON, Canada K4C1B4
phone 613 833-2787 (home) fax 613 833 3032
phone 613 833-1950 (work)

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

191. [picsig] RE: PIC-E background

From: "Sadowski, Allan" <allan.sadowski@ncshp.org>
Date: Mon, 15 Mar 1999 14:37:06 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-10843-1999.03.15-13.38.02--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Richard

Try www.microchip.com for LOTS of info on PICs... they make'm

The Clements MIM is TX only I believe ... as per his web site...

The F84 is easier to program... flash instead of EPROM....

I think the 73 has more memory... but the final word is the site
mentioned above...

ALOHA
AH6LS

> -----Original Message-----
> From: Richard C. Bandla [SMTP:rbandla@voicelogix.ca]
> Sent: Monday, March 15, 1999 2:31 PM
> To: TAPR PIC Development Special Interest Group
> Subject: [picsig] PIC-E background
>
> Sorry to bore you guys with these dumb questions.
>
> I have been reviewing my MIM stuff which I got from Will Clements. Besides
> being susceptible to any stray RF my MIM works quite well. It uses a 16C73
> PIC as does the MIC-E. How do these devices compare to the 16F84
> (technically) and is there a reason why the PIC-E does not use a 16C73?
> One
> obvious guess is that the external modem chip offers more functionality
> than the MIM design paarticularly on the RX side. Also, this modem chip
> must make code development significantly easier with a lower load on the
> CPU than in the 16C73. Anything else?
>
> Is there a place to easily obtain data spec sheets on PICs. I have been
> hunting around and find lots of info but no pictures/block diagrams, like
> the CMOS pictures or old TTL pictures and data sheets. My DigiKey
> catalogue
> seems to list hundreds of these things but it is very difficult to know
> exactly what functions each provides. Someone has posted the names of a
> couple of reference manuals - are these what I should buy if i want to see
> what's inside?
>
> My PIC-E is working and I am trying out various code that you guys make
> available but am definately re-active rather than pro-active at this
> point.
> To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

---
You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

192. [picsig] RE: PicE090 packets don't look right.

From: "Steven R. Bible" <srbible@gate.net>
Date: Mon, 15 Mar 1999 14:36:54 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-10844-1999.03.15-13.41.08--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 01:18 PM 3/15/99 -0500, you wrote:
>On 3/15/99 1:09 PM Steve Dimse K4HG (k4hg@tapr.org) wrote:

>
>>>Now the question seem to be, Why am I in the wrong place?
>>>
>>Well, you need to descibe the problem a little more. Where are you
>>supposed to be, what does the GPS display say, and far off is the report?
>>Are you using www.aprs.net, or map.aprs.net?
>>
>Well, maybe there is a quick solution without these answers. Looking at
>your data on APRServe, the problem seems to be the dreaded dropped
>character problem. Your data is only 7 characters before the comment
>text, so one of them was an unprintable character that did not survive
>the trip over the internet. In the next month or so all the IGates should
>be updated so that Mic-E packets get converted before being sent to the
>internet stream. Once these are all in place there will be no more
>problem...

Mark, have a local person receive your packet and see where you are placed.
 When MIC-E and PIC-E packets go thru the APRS Serve system, if not exactly
right, they get eaten alive.

- Steve
 (n7hpr@tapr.org)
 (n7hpr@amsat.org)

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

193. [picsig] Re: PIC-E background

From: Steve Dimse K4HG <k4hg@tapr.org>
Date: Mon, 15 Mar 1999 14:38:45 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-10845-1999.03.15-13.41.30--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On 3/15/99 2:31 PM Richard C. Bandla (rbandla@voicelogix.ca) wrote:

>I have been reviewing my MIM stuff which I got from Will Clements. Besides
>being susceptible to any stray RF my MIM works quite well. It uses a 16C73
>PIC as does the MIC-E. How do these devices compare to the 16F84
>(technically) and is there a reason why the PIC-E does not use a 16C73? One
>obvious guess is that the external modem chip offers more functionality
>than the MIM design paarticularly on the RX side. Also, this modem chip
>must make code development significantly easier with a lower load on the
>CPU than in the 16C73. Anything else?
>
The big difference is flash. The 16F84 is flash programmable, allowing us
to include the programmer on the board. In contrast, if you wanted to do
development for the 16C73, you would need to buy much more expensive,
windowed chips, have an outboard programmer and a UV eraser.

The C73 is a more powerful chip...more i/o pins, more memory, more
timers, faster clock, and A/D converters. There is a new chip, not yet
released, the 16F873, which will have all the functionality of the 16C73
along with flash programming. This may well be the one we use for the
Pic-E II...

>Is there a place to easily obtain data spec sheets on PICs. I have been
>hunting around and find lots of info but no pictures/block diagrams, like
>the CMOS pictures or old TTL pictures and data sheets. My DigiKey catalogue
>seems to list hundreds of these things but it is very difficult to know
>exactly what functions each provides. Someone has posted the names of a
>couple of reference manuals - are these what I should buy if i want to see
>what's inside?
>
http://www.microchip.com

All the chip specs, programming info, and application notes are available
for download free, or you can request a free CDROM with all the data...

Steve K4HG

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

194. [picsig] Re: PIC-E background

From: "Richard C. Bandla" <rbandla@voicelogix.ca>
Date: Mon, 15 Mar 1999 14:58:29 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-10848-1999.03.15-13.59.59--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Thanks Steve and Allan,
For anyone else who is looking for the exact list of specs, try
http://www.microchip.com/10/Lit/Specs/index.htm

And thankyou Steve for the explanation on 16C73 vs 16F84.

Regards.
Rick (VE3CVG)

At 02:38 PM 03/15/1999 -0500, you wrote:
>On 3/15/99 2:31 PM Richard C. Bandla (rbandla@voicelogix.ca) wrote:
>
>>I have been reviewing my MIM stuff which I got from Will Clements. Besides
>>being susceptible to any stray RF my MIM works quite well. It uses a 16C73

1355 Minogue Cres., Cumberland, ON, Canada K4C1B4
phone 613 833-2787 (home) fax 613 833 3032
phone 613 833-1950 (work)

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195. [picsig] Re: Moscow APRS module

From: Alan Crosswell <alan@watsun.cc.columbia.edu>
Date: Mon, 15 Mar 99 15:10:27 EST
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-10851-1999.03.15-14.12.40--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>Now if that attitude would only carry over to APRS....

ftp://ftp.tapr.org/aprssig/linux/

New release of some of my tools in the works that fixes a serious bug in
Mic-E decoding and radically improves my digipeater/gateway.

Also, please note that most APRS protocols are documented by Bob
Bruninga in his nagware distribution in the README directory,
notwithstanding the disputed copyright terms:

http://www.aprs.net/doc/dos/PROTOCOL.HTM

Notably absent is the Mic-Encoder(tm) documentation but that can be
found (with an error that is entirely my fault and I believe has been
fixed Ron Parsons) in:

http://www.tapr.org/tapr/html/mic-e-proto.html

and is reproduced in the Mic-E assembly manual:

ftp://ftp.tapr.org/aprssig/mic-e/docs/mic-e.manual.pdf

There are undocumented areas like the callsign-registration number
computation for the nagware and apparently, although I don't have
direct experience in this part of APRS yet, the algorithm used to
decide whether one may use the existing RF-to/from-Internet gateways
which is said to be there to prevent use of the gateways by non-hams,
although last I checked 3rd party was legal in the US:-) This is all
3rd hand for me since I haven't looked at those aspects yet.

So, with the exception of a couple of bone-headed areas and the
flame-producing copyright notice, the documentation does exist.
I leave it up to the authors of the mainstream OS APRS apps to defend
their object-code-onliness. They are all on this sig;-)

73 de Alan N2YGK

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196. [picsig] Re: PIC-E background

From: Alan Crosswell <alan@watsun.cc.columbia.edu>
Date: Mon, 15 Mar 99 15:15:57 EST
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Cc: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-10855-1999.03.15-14.18.43--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Goto www.microchip.com. They have more than you could ever read about
PICs including data sheets, tons and tons of app notes with significant
examples, etc.
/a

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197. [picsig] Re: PIC-E background

From: Bob Nielsen <nielsen@primenet.com>
Date: Mon, 15 Mar 1999 13:16:54 -0700 (MST)
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-10856-1999.03.15-14.19.04--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Mon, 15 Mar 1999, Steve Dimse K4HG wrote:

> On 3/15/99 2:31 PM Richard C. Bandla (rbandla@voicelogix.ca) wrote:
>
> >I have been reviewing my MIM stuff which I got from Will Clements. Besides
> >being susceptible to any stray RF my MIM works quite well. It uses a 16C73
> >PIC as does the MIC-E. How do these devices compare to the 16F84
> >(technically) and is there a reason why the PIC-E does not use a 16C73? One
> >obvious guess is that the external modem chip offers more functionality
> >than the MIM design paarticularly on the RX side. Also, this modem chip
> >must make code development significantly easier with a lower load on the
> >CPU than in the 16C73. Anything else?
> >
> The big difference is flash. The 16F84 is flash programmable, allowing us
> to include the programmer on the board. In contrast, if you wanted to do
> development for the 16C73, you would need to buy much more expensive,
> windowed chips, have an outboard programmer and a UV eraser.
>
> The C73 is a more powerful chip...more i/o pins, more memory, more
> timers, faster clock, and A/D converters. There is a new chip, not yet
> released, the 16F873, which will have all the functionality of the 16C73
> along with flash programming. This may well be the one we use for the
> Pic-E II...

Will it have enough memory to perform as a KISS TNC? That would really
hold promise.

Bob

Bob Nielsen   Internet: nielsen@primenet.com
Tucson, AZ   AMPRnet: w6swe@w6swe.ampr.org
DM42nh   http://www.primenet.com/~nielsen

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198. [picsig] Re: PIC-E background

From: Alan Crosswell <alan@watsun.cc.columbia.edu>
Date: Mon, 15 Mar 99 15:28:21 EST
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-10862-1999.03.15-14.30.37--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>Will it have enough memory to perform as a KISS TNC? That would really
>hold promise.

One memory option is to use an external SRAM. Of course makes the
project a little more complex as the SRAM is essentially treated like
an external I/O device rather than memory. There are app-notes at
Microchip that show how to use an SRAM. See:

http://www.microchip.com/10/Appnote/Category/PIC16/index.htm

especially, TB011, Using SRAM
            AN616, DSP

One day I'll stop reading and start soldering.

73 de Alan N2YGK

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199. [picsig] Re: Moscow APRS module

From: Steve Dimse K4HG <k4hg@tapr.org>
Date: Mon, 15 Mar 1999 16:04:19 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-10866-1999.03.15-15.07.12--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On 3/15/99 3:10 PM Alan Crosswell (alan@watsun.cc.columbia.edu) wrote:

>There are undocumented areas like the callsign-registration number
>computation for the nagware and apparently, although I don't have
>direct experience in this part of APRS yet, the algorithm used to
>decide whether one may use the existing RF-to/from-Internet gateways
>which is said to be there to prevent use of the gateways by non-hams,
>although last I checked 3rd party was legal in the US:-) This is all
>3rd hand for me since I haven't looked at those aspects yet.
>
Yes the internet gateway password algorithm is secret, and will remain
so. It is pretty simple, but were someone to crack it I would have to
change it to something more secure like a query-response system. The
reason isn't third party traffic, but rather that without verification,
it would be possible for non-hams to initiate a transmission. This is
illegal in the US. Another problem is the automatic message passing rules
added a couple years ago, which make the first-transmitting station
responsible for the content of my message.

Say my girlfriend logs on to APRServe, and sends a message that gets
transmitted automatically by your IGate. Suppose I'm on a long trip,
haven't seen her in a while, and she decides to invent APRSex. Who does
the FCC cite for her explicit message? You! Of course, this is all
hypothetical, because all my YL's are pure as driven snow, but you get
the point...

>So, with the exception of a couple of bone-headed areas and the
>flame-producing copyright notice, the documentation does exist.
>I leave it up to the authors of the mainstream OS APRS apps to defend
>their object-code-onliness. They are all on this sig;-)
>
When you become an "Official APRS Software Author" you are required by
Bob Bruninga to agree to never release your source code. Don't blame the
other authors, they are simply abiding by agreements they made. I have
recently resigned my "Official APRS" status, so that my Pic-E code and a
future project (XMLServe) may be open source. It is more fun being a
free-agent anyway. I considered releasing the source code for javAPRS,
but decided that since I had agreed to those terms perviously I was
ethically bound to honor them.

Steve K4HG

APRS is a registered trademark of Bob Bruninga and APRS Inc. Mic-E is a
trademark of Bob Bruninga and APRS Inc.

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200. [picsig] Re: Moscow APRS module

From: Alan Crosswell <alan@watsun.cc.columbia.edu>
Date: Mon, 15 Mar 99 16:09:09 EST
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Cc: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>

Message-ID: <LYR6890-10868-1999.03.15-15.11.28--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>recently resigned my "Official APRS" status, so that my Pic-E code and a

You are now pure as the driven snow:-) I take back all those evil things
I thought of you!

73 de Alan N2YGK

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201. [picsig] Re: Moscow APRS module

From: Steve Dimse K4HG <k4hg@tapr.org>
Date: Mon, 15 Mar 1999 16:15:59 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-10869-1999.03.15-15.18.50--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On 3/15/99 4:09 PM Alan Crosswell (alan@watsun.cc.columbia.edu) wrote:

>You are now pure as the driven snow:-) I take back all those evil things
>I thought of you!
>
I had no idea you had evil thoughts of me...

I thought that giving away all my software (even if I didn't release
source) and the use of my server to any ham made me rather pure to start
with ;-)

Steve K4HG

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202. [picsig] Re: Moscow APRS module

From: Alan Crosswell <alan@watsun.cc.columbia.edu>
Date: Mon, 15 Mar 99 16:29:02 EST
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Cc: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-10870-1999.03.15-15.31.17--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Pure, but not as the driven snow.

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203. [picsig] Re: PIC-E background

From: John Hansen <hansen@fredonia.edu>
Date: Mon, 15 Mar 1999 16:28:59 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-10871-1999.03.15-15.33.43--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 01:16 PM 3/15/99 -0700, you wrote:

>> The C73 is a more powerful chip...more i/o pins, more memory, more
>> timers, faster clock, and A/D converters. There is a new chip, not yet
>> released, the 16F873, which will have all the functionality of the 16C73
>> along with flash programming. This may well be the one we use for the
>> Pic-E II...
>
>Will it have enough memory to perform as a KISS TNC? That would really
>hold promise.
>
>Bob

Probably have to go to a 16F876 or 16F877, since the 873 only has 128 bytes
of RAM.

John

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204. [picsig] Re: PIC-E background

From: Jim Maiullo <jimmaiul@home.com>
Date: Mon, 15 Mar 1999 19:36:33 -0200
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-10888-1999.03.15-18.35.45--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Richard,

The 16C73 has a UART in hardware and at present program memory is UV erasable
only. Microchip promises a 16C773 that will use Flash as program memory somtime

later this year (3rd Qtr).
You can get a PIC16/17Microcontroller Data Book from Parallax
Phone #516 351 1606.

The PIC-E uses the 16F84 with the CCS C compiler (Phone # 414 781 2794 x35
and makes programming the PIC a snap.

Jim Maiullo

Richard C. Bandla wrote:

> Sorry to bore you guys with these dumb questions.
>
> I have been reviewing my MIM stuff which I got from Will Clements. Besides
> being susceptible to any stray RF my MIM works quite well. It uses a 16C73
> PIC as does the MIC-E. How do these devices compare to the 16F84
> (technically) and is there a reason why the PIC-E does not use a 16C73? One
> obvious guess is that the external modem chip offers more functionality
> than the MIM design paarticularly on the RX side. Also, this modem chip
> must make code development significantly easier with a lower load on the
> CPU than in the 16C73. Anything else?
>
> Is there a place to easily obtain data spec sheets on PICs. I have been
> hunting around and find lots of info but no pictures/block diagrams, like
> the CMOS pictures or old TTL pictures and data sheets. My DigiKey catalogue
> seems to list hundreds of these things but it is very difficult to know
> exactly what functions each provides. Someone has posted the names of a
> couple of reference manuals - are these what I should buy if i want to see
> what's inside?
>
> My PIC-E is working and I am trying out various code that you guys make
> available but am definately re-active rather than pro-active at this point.
>
> Thanks again for all the info sharing.
>
> Regards. Rick (VE3CVG)
>
> 1355 Minogue Cres., Cumberland, ON, Canada K4C1B4
> phone 613 833-2787 (home)   fax 613 833 3032
> phone 613 833-1950 (work)
>
> ---
> You are currently subscribed to picsig as: jimmaiul@home.com
> To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

---
You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

205. [picsig] Re: Moscow APRS module

From: "Byon Garrabrant" <byon@mail.com>
Date: Mon, 15 Mar 1999 21:22:10 -0800
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-10923-1999.03.15-23.26.43--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On 15 Mar 99, at 16:04, Steve Dimse K4HG wrote:

> Yes the internet gateway password algorithm is secret, and will remain so.
> It is pretty simple, but were someone to crack it I would have to change

> it to something more secure like a query-response system. The reason isn't
> third party traffic, but rather that without verification, it would be
> possible for non-hams to initiate a transmission.

Does this mean that any verified hams are allowed to use it without
cost? Is there currently any software written to interface to it,
again without cost?

Curious,
Byon

_____
 Byon Garrabrant N6BG byon@mail.com

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206. [picsig] Re: PIC-E background

From: "Byon Garrabrant" <byon@mail.com>
Date: Mon, 15 Mar 1999 21:27:20 -0800
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-10924-1999.03.15-23.31.53--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On 15 Mar 99, at 15:28, Alan Crosswell wrote:

> >Will it have enough memory to perform as a KISS TNC? That would really
> >hold promise.
>
> One memory option is to use an external SRAM. Of course makes the
> project a little more complex as the SRAM is essentially treated like an
> external I/O device rather than memory.

How much memory do these SRAMS have? It seems we would
need quite a bit. I understand some TCP/IP packages use 1K
packets, and I wold expect a TNC to be about to hold a few (4+
???) in case the channel happened to be busy. It would also need
space to hold the incoming packet until completion, and perhaps
more than 1 if the computer is allowed to throw the flow control
lines. Do they come in a 8K byte variety? If not, we could be
limited to a limited KISS TNC.

IMHO, I don't think the extra complexity due to external I/O would
be a big deal.

Byon

_____
 Byon Garrabrant N6BG byon@mail.com

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

207. [picsig] RE: PIC-E background

From: "Byon Garrabrant" <byon@mail.com>
Date: Mon, 15 Mar 1999 21:30:30 -0800
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-10926-1999.03.15-23.35.02--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On 15 Mar 99, at 14:37, Sadowski, Allan wrote:

> The Clements MIM is TX only I believe ... as per his web site...

For those that don't know, I've had success receiving packet with
the PIC-E, and am on my way to building code to transmit and
receive (albeit short packets).

Byon

_____
 Byon Garrabrant N6BG byon@mail.com

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208. [picsig] RE: PicE090 packets don't look right.

From: "Byon Garrabrant" <byon@mail.com>
Date: Mon, 15 Mar 1999 21:33:04 -0800
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-10927-1999.03.15-23.37.37--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On 15 Mar 99, at 13:18, Steve Dimse K4HG wrote:

> On 3/15/99 1:09 PM Steve Dimse K4HG (k4hg@tapr.org) wrote:
>
> >>Now the question seem to be, Why am I in the wrong place?
> >>
> >Well, you need to descibe the problem a little more. Where are you
> >supposed to be, what does the GPS display say, and far off is the report?
> > Are you using www.aprs.net, or map.aprs.net?
> >
> Well, maybe there is a quick solution without these answers. Looking at
> your data on APRServe, the problem seems to be the dreaded dropped
> character problem. Your data is only 7 characters before the comment text,
> so one of them was an unprintable character that did not survive the trip
> over the internet. In the next month or so all the IGates should be
> updated so that Mic-E packets get converted before being sent to the
> internet stream. Once these are all in place there will be no more
> problem...
>

Which software are you using to generate your MIC-E traffic?

Steve, can this problem be solved in the firmware, or is it a case
for Bob's "figure out the missing char / three-bits of added error"
decoding?

Byon

_____
 Byon Garrabrant N6BG byon@mail.com

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

209. [picsig] RE: PicE090 packets don't look right.

From: "Byon Garrabrant" <byon@mail.com>
Date: Mon, 15 Mar 1999 21:34:18 -0800
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-10928-1999.03.15-23.38.48--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On 15 Mar 99, at 13:09, Steve Dimse K4HG wrote:

> On 3/15/99 12:59 PM Mark Grennan (mgrennan@mail.fleming.com) wrote:
>
> >I is working now. I filled out these all the lines so they where all six
> >(6) char.
> >
> >After I got it on the air, members of my local group started calling and
> >asking me to take out so many WIDE's. They wanted a "RELAY " and a "WIDE
> > ". This
>
> Yes, perhaps the sample source code should comment out the last few digis
> to make it clear that you do not need to have all 6 of them in the path...

Good Idea, I'll do that as well as the VALID flash at startup.
Anything else???

Byon

_____
 Byon Garrabrant N6BG byon@mail.com

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210. [picsig] RE: PicE090 packets don't look right.

From: Steve Dimse K4HG <k4hg@tapr.org>
Date: Tue, 16 Mar 1999 02:16:41 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-10944-1999.03.16-01.19.07--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On 3/16/99 12:33 AM Byon Garrabrant (byon@mail.com) wrote:

>Which software are you using to generate your MIC-E traffic?
>
>Steve, can this problem be solved in the firmware, or is it a case
>for Bob's "figure out the missing char / three-bits of added error"
>decoding?
>
Theoretically it can be solved in firmware, by not transmitting an char
in the range 28-31 decimal. You would go up or down to avoid this,
introducing a bit of error. However, the network still needs to be able
to handle the Kenwood HT and Mic-E, which cannot (or at least will not)
be upgraded, so there isn't much point in adding this to the firmware.

Steve K4HG

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211. [picsig] Re: Moscow APRS module

From: Steve Dimse K4HG <k4hg@tapr.org>
Date: Tue, 16 Mar 1999 02:47:19 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-10945-1999.03.16-01.49.48--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On 3/16/99 12:22 AM Byon Garrabrant (byon@mail.com) wrote:

>> Yes the internet gateway password algorithm is secret, and will remain so.
>> It is pretty simple, but were someone to crack it I would have to change
>> it to something more secure like a query-response system. The reason isn't
>> third party traffic, but rather that without verification, it would be
>> possible for non-hams to initiate a transmission.
>
>Does this mean that any verified hams are allowed to use it without
>cost? Is there currently any software written to interface to it,
>again without cost?
>
At this time, the only client programs that support the verification
protocol are WinAPRS, MacAPRS, and APRS+SA. All of these require paid
registration in order to be verified. Mostly this was a way to avoid my
being deluged with a ton of requests for verifications...I have too much
else to do.

However, I also feel it is a programmer's right to choose to keep his
code proprietary, and profit from their skills, even though I choose not
to. All these client programs are very reasonably priced, given the
number of features and the perpetual upgrades. I am glad to encourage
people to pay the shareware fee, and I would not support any system
simply to avoid giving these people their due. I am very fortunate that I
am in a position to donate the $3000 server to the cause, and spend
thousands more every year promoting APRS at hamfests around the country.
Others aren't so lucky, and need some money to offset expenses. I
guarantee that if you took the money any of the authors has made from
APRS, deducted their expenses, and then divided by the number of hours
they have programming and promoting their programs, you would find they
would have been much better off flipping burgers at McDonalds!

That said, were someone to come up with a functional APRS compatible
program, say an open source Linux effort, that was fully compliant with
all portions of the APRS protocol, and included all the basic functions
that an APRS client needs to be useful, and were they to present a
credible plan for verification of hams and safeguarding of the
authentication algorithm, I would be inclined to share it with them. Such
a program would have to exist before I would share the algorithm though...

A person can set up a full time IGate without using one of these client
programs, at no cost. APRServe is available for just about any 68030 or
newer Mac (anything made in the last 6 years or so). aprsd by WA4DSY is
available for Linux. aprsmon by our own Alan Crosswell is also available
for Linux, however it is a one-way IGate (this hasn't changed, has it
Alan?) and so is not the best choice at this time. These full time gates
do not use the verification protocol. They are set up and left running,
and the redundant central APRServe machines connect to them. There are
now 16 such sites, and each new one is verified by me prior to being
added to the connect list.

I see this thread is straying a bit off the charter for the picsig
though...

Steve K4HG

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212. [picsig] Re: Moscow APRS module

From: Alan Crosswell <n2ygk@weca.org>
Date: Tue, 16 Mar 99 10:31:04 EST
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-10973-1999.03.16-09.33.23--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

The almost-pure as the driven snow Steve wrote:

>A person can set up a full time IGate without using one of these client
>programs, at no cost. APRServe is available for just about any 68030 or
>newer Mac (anything made in the last 6 years or so). aprsd by WA4DSY is
>available for Linux. aprsmon by our own Alan Crosswell is also available
>for Linux, however it is a one-way IGate (this hasn't changed, has it
>Alan?) and so is not the best choice at this time. These full time gates
>do not use the verification protocol. They are set up and left running,
>and the redundant central APRServe machines connect to them. There are
>now 16 such sites, and each new one is verified by me prior to being
>added to the connect list.

After looking at aprsd I've come to the conclusion that all it needs
is kernel ax.25 support and then aprsmon can go to free software
heaven. Dale's code does what aprsmon does, only better, and he
already uses my GPL'd Mic-E translation code so he didn't have to
reinvent that wheel -- he even got to include my longitude 100's
bug:-)

For those not in tune with Linux ax25, Dale's aprds talks to a
TNC via the serial port directly while my code uses the Linux kernel
ax25 network protocol stack, which means I can use any ax25 device
that the kernel supports not just a TNC2. A partial list of these
additional devices includes soundcard, all the baycom stuff (baypac,
picpar, picser, etc.), various HDLC cards, and Dale's 56K modem:-)

I've volunteered to make the changes but have not had time just yet as
I've been working on a new release of aprsdigi which will do a number
of sick things including support for callsign substitution, WIDE
(already had these two); WIDEn-n, TRACE, TRACEn-n, routing (with
fanout) across multiple interfaces (e.g. fan out WIDE on say 144.39
and a private local-use UHF freq or BPQ ethernet or whatever).

New mic-e translation portion will include updates to make the
messages match better what Bob wants them to look like and support for
the Kenwood TH-D7 and Pic-E assuming it looks different from a Mic-E.

>I see this thread is straying a bit off the charter for the picsig
>though...

(Tongue in cheek) I propose renaming the PIC sig the freeAPRS(tm)
sig:-)

I'm tempted to CC this to the linux-hams list where the same flame war
is happening, but maybe those interested should just subscribe to that
list as well.

73 de Alan N2YGK

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213. [picsig] RE: PicE090 packets don't look right.

From: "Byon Garrabrant" <byon@mail.com>
Date: Tue, 16 Mar 1999 09:14:34 -0800
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-10982-1999.03.16-11.18.56--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On 16 Mar 99, at 2:16, Steve Dimse K4HG wrote:

> On 3/16/99 12:33 AM Byon Garrabrant (byon@mail.com) wrote:
>
> >Which software are you using to generate your MIC-E traffic?
> >
> >Steve, can this problem be solved in the firmware, or is it a case for
> >Bob's "figure out the missing char / three-bits of added error" decoding?
> >
> Theoretically it can be solved in firmware, by not transmitting an char in
> the range 28-31 decimal. You would go up or down to avoid this,
> introducing a bit of error. However, the network still needs to be able to
> handle the Kenwood HT and Mic-E, which cannot (or at least will not) be
> upgraded, so there isn't much point in adding this to the firmware.
>
> Steve K4HG

When you say change the network, do you mean change the TNCs
on the hills? It seems that the only change that is needed is the 2
or 3 software programs that do the gating to the net. These should
be much easier to update than ROM firmware. Or is this what you
meant?

BTW, is there currently a Linux program to gate a TNC to
APRServe?

Byon
_____
 Byon Garrabrant N6BG byon@mail.com

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214. [picsig] PICE090 and Valid LED

From: "Mark Grennan" <mgrennan@fleming.com>
Date: Tue, 16 Mar 1999 11:30:38
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-10986-1999.03.16-11.32.56--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Byon,

What is the Valid light used for? I was running your code last night and
the Valid LED came one. I looked in the source code and I see it has
something to do with Timing, but I don't understand it enuff to tell.

Mark Grennan KD5AMB

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215. [picsig] RE: PicE090 packets don't look right.

From: "Mark Grennan" <mgrennan@fleming.com>
Date: Tue, 16 Mar 1999 11:36:26
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-10987-1999.03.16-11.38.42--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On 03/15/99, ""Byon Garrabrant" <byon@mail.com>" wrote:
> On 15 Mar 99, at 13:18, Steve Dimse K4HG wrote:
>
> > On 3/15/99 1:09 PM Steve Dimse K4HG (k4hg@tapr.org) wrote:
> >
> > >>Now the question seem to be, Why am I in the wrong place?
> > >>
> > >Well, you need to descibe the problem a little more. Where are you
> > >supposed to be, what does the GPS display say, and far off is the report?
> > > Are you using www.aprs.net, or map.aprs.net?
> > >
> > Well, maybe there is a quick solution without these answers. Looking at
> > your data on APRServe, the problem seems to be the dreaded dropped
> > character problem. Your data is only 7 characters before the comment text,
> > so one of them was an unprintable character that did not survive the trip
> > over the internet. In the next month or so all the IGates should be
> > updated so that Mic-E packets get converted before being sent to the
> > internet stream. Once these are all in place there will be no more
> > problem...

> >
>
> Which software are you using to generate your MIC-E traffic?
>

I'm using the pice090 set.

I think the local people are seeing the same thing. Everyone talks about
my being North of Oklahoma City. I'm realy more west central.

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216. [picsig] Re: hello world program

From: "Byon Garrabrant" <byon@mail.com>
Date: Tue, 16 Mar 1999 09:38:51 -0800
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-10989-1999.03.16-11.43.14--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

In an efferot to reel the topics (which I help launch away) back in,
I thought I would answer the following email publicly, in case any
others were curious.

> Hello Byon, I have a question for you. I am trying to use the Hello
> World program that you wrote to use my call. I am not a programmer and
> must be missing something obvious. What I am looking for is were do I put
> the callsign in the packet.asm file. I see where you put the statements
> about h60 and h61 but I dont fully understand were to place the call.

He is talking about packet.zip, which includes the following code
snipet in packet.asm...

```
Get_Header
        addwf   PCL, F
        ; dest callsign
        dt      'C'<<1,'Q'<<1,' '<<1,' '<<1,' '<<1,' '<<1, (D'0'<<1)|H'60'
        ; source callsign
        dt      'N'<<1,'6'<<1,'B'<<1,'G'<<1,' '<<1,' '<<1, (D'0'<<1)|H'61'
        ; digi callsign (optional)
;       dt      'R'<<1,'E'<<1,'L'<<1,'A'<<1,'Y'<<1,' '<<1, (D'0'<<1)|H'61'
        dt      H'03', H'F0'
        dt      0
```

This example shows N6BG sending to CQ.

If I were to un-comment the digi line by remove the semicolon at
the beginning of the line, (and also changing the N6BG line to end
in H'60' instead of H'61') then I would be N6BG sending to CQ via
RELAY

All callsign lines must end with H'60' except for the last used line,
which should end with H'61'

You can use from 0 to 8 (I think) relays (callsigns after the dest
and source callsigns.

Callsigns are padded to 7 characters (with spaces) and are broken
apart and shifted left 1 bit (<<1), so N6BG becomes:

```
        dt      'N'<<1,'6'<<1,'B'<<1,'G'<<1,' '<<1,' '<<1, (D'0'<<1)|H'61'
```

KD6BCH would be:

```
        dt      'K'<<1,'D'<<1,'6'<<1,'B'<<1,'C'<<1,'H'<<1, (D'0'<<1)|H'61'
```

These show no SSID (0). To send another SSID (1-15) change the
value in the parentheses. So N6BG-9 would be:

```
        dt      'N'<<1,'6'<<1,'B'<<1,'G'<<1,' '<<1,' '<<1, (D'9'<<1)|H'61'
```

Also, JSTYK, entering callsigns is a bit different than in PICE090,
you don't need to break them apart, or mark the last digi differently,
but you do need to pad to 7 with spaces and enter an SSID. It's
form of N6BG-9 looks like this:

```
        dt      "N6BG  ", D'9' + H'30'  ; callsign and digis
```

Hope this answers most questions. Please feel free to ask more.

Byon

_____
Byon Garrabrant N6BG byon@mail.com

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217. [picsig] Re: PICE090 and Valid LED

From: "Byon Garrabrant" <byon@mail.com>
Date: Tue, 16 Mar 1999 09:43:20 -0800
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-10990-1999.03.16-11.47.46--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On 16 Mar 99, at 11:30, Mark Grennan wrote:

> Byon,
>
> What is the Valid light used for? I was running your code last night and
> the Valid LED came one. I looked in the source code and I see it has
> something to do with Timing, but I don't understand it enuff to tell.
>
> Mark Grennan KD5AMB
>

The VALID light should turn on when the PIC-E has a VALID fix
from the GPS. If the light is lit, and you unplug the GPS, or lose
enough satelites, then the light will turn off after a small delay.

Byon

_____
Byon Garrabrant N6BG byon@mail.com

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218. [picsig] Re: Moscow APRS module

From: Jeff King <jeff@aerodata.net>
Date: Tue, 16 Mar 1999 13:24:45 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-10992-1999.03.16-12.17.55--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Alan Crosswell wrote:

> The almost-pure as the driven snow Steve wrote:
>
> >I see this thread is straying a bit off the charter for the picsig
> >though...

One needs to know the protocols to be able to write the PIC
software. I've seen more here in the last two weeks about the
specific of protocols for APRS then the entire two years I was
subsribed to APRSsig. Maybe off charter, but information that
needs to be known.

> (Tongue in cheek) I propose renaming the PIC sig the freeAPRS(tm)
> sig:-)

Not sure about the re-naming, but we have needed a discussion group
where programmers could discuss the protocol specifics of APRS....

-Jeff

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219. [picsig] Open Source Lives on APRS!!!

From: "Mark Grennan" <mgrennan@fleming.com>
Date: Tue, 16 Mar 1999 12:17:51

To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-10993-1999.03.16-12.20.05--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Steve Dimse K4HG Wrote

> When you become an "Official APRS Software Author" you are required by
> Bob Bruninga to agree to never release your source code. Don't blame the
> other authors, they are simply abiding by agreements they made. I have
> recently resigned my "Official APRS" status, so that my Pic-E code and a
> future project (XMLServe) may be open source. It is more fun being a
> free-agent anyway.

And we thank you VERY MUCH Steve.

I think radio electronics might revive with the new chips that have been
coming out.

It's still hard to get people to understand. My son (KD5AMC) didn't
understand why I would want to build a 1200baud radio modem. And when I
told him I only wanted it to have a 500mw transmiter he just shoke his
head.

But, when I explained I wanted to car to be able to tell the house when it
was home and then to turn on the lights and find StarTrek on TV for me
before I arrived. He smiled and ask how it worked.

Mark Grennan KD5AMB

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220. [picsig] Receiving with a PIC-E

From: "Mark Grennan" <mgrennan@fleming.com>
Date: Tue, 16 Mar 1999 12:28:21
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-10996-1999.03.16-12.30.37--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Byon Garrabrant Wrote

> For those that don't know, I've had success receiving packet with
> the PIC-E, and am on my way to building code to transmit and
> receive (albeit short packets).

I have two PIC-E's and I'm in the process of cross wiring them together.

I have several 20x4 LCD displays on the way and I'm hoping to have a PIC-E
receive APRS messages and display them on the LCD. Maybe beep if it is for
you.

This shouldn't be too hard. The message could be written (scrolled)
directly to the display as it is received.

Mark Grennan KD5AMB

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221. [picsig] Re: Open Source Lives on APRS!!!

From: Alan Crosswell <n2ygk@weca.org>
Date: Tue, 16 Mar 99 14:30:52 EST
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-11006-1999.03.16-13.33.11--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>But, when I explained I wanted to car to be able to tell the house when it
>was home and then to turn on the lights and find StarTrek on TV for me
>before I arrived. He smiled and ask how it worked.

Ahh, object technology! Jini. Now I get it:-)

73 de Alan N2YGK

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222. [picsig] Re: Receiving with a PIC-E

From: Jeff King <jeff@aerodata.net>
Date: Tue, 16 Mar 1999 13:48:05 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Cc: TAPR PIC Development Special Interest Group <picsig@lists.tapr.org>
Message-ID: <LYR6890-11007-1999.03.16-13.36.54--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Mark Grennan wrote:

> I have several 20x4 LCD displays on the way and I'm hoping to have a PIC-E
> receive APRS messages and display them on the LCD. Maybe beep if it is for
> you.

In four bit mode, you need 6-7 lines to control the LCD. What I ended up doing
was using the Matrix Orbital's I2C LCD display.... it only needed two lines. I
modified the CCS LCD driver code (attached). This is for the 16X2 but you
should be able to modify it for 20X4.

-Jeff

p.s. I also found a 4 line display driver someone had sent me, I also attached
it. It has not been modified yet for the Matrix display, but that should be
fairly easy.
[Attachment: LCD_MAT.C; application/x-unknown-content-type-c_auto_file; 1,951 bytes]
[Attachment: lcd4.c; application/x-unknown-content-type-c_auto_file; 5,391 bytes]

223. [picsig] Re: Receiving with a PIC-E

From: Jeff King <jeff@aerodata.net>
Date: Tue, 16 Mar 1999 15:19:46 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-11012-1999.03.16-14.12.59--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Mark Grennan wrote:

> Your right... I found a great site about LCDs
> (http://www.iaehv.nl/users/pouweha/lcd.htm)
>
> So, where do you get you I2C displays?

http://www.matrix-orbital.com/

has them. You also can locate serial lcd "backpaks" from a
number of sources and they are cheaper then Matrix-Orbitals.
However, Matrix's is the only I2C lcd backpak I know of. I
have been able to get them to sell me just the backpak but they
prefer to sell you the whole assembly including the LCD.

-Jeff

>
>
> Mark Grennan KD5AMB
>
> Jeff King wrote:
>
> > Mark Grennan wrote:
> >
> > In four bit mode, you need 6-7 lines to control the LCD. What I ended up doing
> > was using the Matrix Orbital's I2C LCD display.... it only needed two lines. I
> > modified the CCS LCD driver code (attached). This is for the 16X2 but you
> > should be able to modify it for 20X4.
> >
> > -Jeff

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224. [picsig] Re: Open Source Lives on APRS!!!

From: Ray Vaughan <ray@rayvaughan.com>
Date: Tue, 16 Mar 1999 15:35:08 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-11014-1999.03.16-14.37.33--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>But, when I explained I wanted to car to be able to tell the house when it
>was home and then to turn on the lights and find StarTrek on TV for me
>before I arrived. He smiled and ask how it worked.

I was thinking in the car about an application based on APRS the other day...

I would have one published phone number. A computer getting the APRServe
data and a running call answering/forwarding program would compare my car's
current location to places I'm known to be (office, home, or moving). From
this data, the system would forward a call to me to the most logical
location based on my location (office line, home line or cellular). Heck,
I could even get it to call me at the bar.

"Thank you for calling. According to my sensors, Ray is currently at work.
 Please hold the line while I transfer your call to his office"

Scary, ain't it?

Ray, KD4BBM

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225. [picsig] Re: Moscow APRS module

From: Bob Nielsen <nielsen@primenet.com>
Date: Tue, 16 Mar 1999 14:44:27 -0700 (MST)
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-11025-1999.03.16-15.46.45--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Tue, 16 Mar 1999, Alan Crosswell wrote:

> >I see this thread is straying a bit off the charter for the picsig
> >though...
>
> (Tongue in cheek) I propose renaming the PIC sig the freeAPRS(tm)
> sig:-)

GnuPRS anyone?

>
> I'm tempted to CC this to the linux-hams list where the same flame war
> is happening, but maybe those interested should just subscribe to that
> list as well.

Where they can also learn about the Karl-filter, etc. The flame war also
occurred earlier on the debian-hams list (with some interesting comments
from Bdale.)

Enough said, let's kill the thread.

Bob

Bob Nielsen   Internet: nielsen@primenet.com
Tucson, AZ   AMPRnet: w6swe@w6swe.ampr.org
DM42nh   http://www.primenet.com/~nielsen

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

226. [picsig] RE: PicE090 packets don't look right.

From: Bob Nielsen <nielsen@primenet.com>
Date: Tue, 16 Mar 1999 14:55:36 -0700 (MST)
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-11026-1999.03.16-15.57.46--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Tue, 16 Mar 1999, Byon Garrabrant wrote:

>
> BTW, is there currently a Linux program to gate a TNC to
> APRServe?

Yes, Steve mentioned it yesterday. Dale Heatherington, wa4dsy's aprsd
program does that. http://www.wa4dsy.radio.org/aprs/

Bob

Bob Nielsen   Internet: nielsen@primenet.com
Tucson, AZ   AMPRnet: w6swe@w6swe.ampr.org
DM42nh   http://www.primenet.com/~nielsen

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227. [picsig] Re: PIC-E background

From: Alan Crosswell <n2ygk@weca.org>
Date: Tue, 16 Mar 99 17:49:29 EST
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-11029-1999.03.16-16.51.47--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>How much memory do these SRAMS have?

The app note I cited yesterday, TB011, shows two 32Kx8 SRAMS with low
order address/data muxed with a 74LS373. This is on a PIC16C74 which
I think has more lines than the one used in the PIC-E(?) but they did
it with a total of 17 lines: 8 for the high order address bits, and 8
for the low order address bits muxed with the data bits (one line
selects address or data). Of course, if you don't need that much
memory (as much as in a TNC2!) then you could do it with fewer address
lines.

73 de Alan N2YGK
PS: http://www.microchip.com/10/Appnote/Category/PIC16/91011/index.htm

---
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228. [picsig] Re: Receiving with a PIC-E

From: Doug Bade <doug@clecom.com>
Date: Tue, 16 Mar 1999 18:27:17 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-11032-1999.03.16-17.30.12--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hello Sig;
        I found a REAL CHEAP source of pullout lcd displays, also some 4X20 new
units. They also sell a pic cpu programmed to translate ascii to lcd VERY
CHEAP...   Have fun.. Doug
                http://www.bgmicro.com/
                http://www.bgmicro.com/pdf/page2.pdf

At 01:48 PM 03/16/1999 -0500, you wrote:
>Mark Grennan wrote:
>
>> I have several 20x4 LCD displays on the way and I'm hoping to have a PIC-E
>> receive APRS messages and display them on the LCD. Maybe beep if it is for
>> you.
>
>In four bit mode, you need 6-7 lines to control the LCD. What I ended up
doing
>was using the Matrix Orbital's I2C LCD display.... it only needed two
lines. I
>modified the CCS LCD driver code (attached). This is for the 16X2 but you
>should be able to modify it for 20X4.
>
>-Jeff
>
>p.s. I also found a 4 line display driver someone had sent me, I also

attached
>it. It has not been modified yet for the Matrix display, but that should be
>fairly easy.
>

Douglas Bade
Cleveland Communications
9045 Brookpark Rd.
Cleveland Ohio, 44129
800-878-6500
dbade@clecom.com

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229. [picsig] (2) Moscow APRS module

From: Karen Tadewosyan <karen@ampr.demos.su>
Date: Wed, 17 Mar 1999 13:15:12 +0300
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-11096-1999.03.17-04.14.55--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I attentively have overlooked the answers under my letter and I can
inform the following:

1. We have become interested in 1998 in idea of installation APRS in
Moscow and our choice has stopped on MIM module from William Clement,
N3XLM. The answer of the author consist that the source codes of the
program can not be transferred. My respect to William Clement has not
decreased in any way after that answer, as I understood his right on
such answer. Only author decides to do this project open whether or
not, and nobody can show the claims in this occasion.

The similar situation was in 1990, when we have requested source AX.25
code for EPROM in TNC2 at TAPR and PacCom - answer negative. We have
solved then this problem for 6 months.

2. In various Internet conferences we have sent some letters about
AX.25 routine for PIC processors. No answers.

3. In May, 1998 we have begun own development of STM (System Telemetry
Module) on PIC16C74 and then on 16C77. In December, 1998 the project
was completed and is published in a packet radio network. In January
1999 information was published on http://ra3apw.demos.su/stm (Russian
variant), in February the English translation was made and is published
on http://ra3apw.demos.su/eng/stm. All source codes were written
independently from a beginning up to the end. The proof to that - in
that time the necessary source texts anywhere were not freely published
and our STM the module does much more than freely distributed PICE.

4. In 1998 we have begun the project as only amateur, but have
understood, that for deployment of a radioamateur network APRS in Moscow
of the finance at us will not suffice, and soon commercial customers on
purchase STM such as the Control Space Centre (TSUP), geologists and
other firms have appeared. As a result of sale STM of modules we receive
money from business concerns for creation amateur APRS of a network. And
to be used anyone APRS software will be ONLY in an amateur network. This
mechanism is good itself has tested in 1992, when we have begun to set
up AMPR in Russia. I too have spent not one thousand USD and I continue
to do it on creation, support amateur AMPR, packet and satellite systems
in Russia, some of which are supported by me or my friends. And still,
do not forget a difference in opportunities of financing of the similar
radioamateur projects in USA and Russia now.

5. I always asked the permissions the authors on use of their software
and paid the specified sum - so was and with TNOS/Linux for AMPR
gateway, so was for WISP for my packet satellite station, so was
and for this software for a configuration STM.

6. When I have found on TAPR web site the project PICE and has
subscribed for it 10 days ago, thought simply to exchange new reasons
on the given problem with the developers. I did not assume, that for
participation in this project, I should break all former arrangements.
All who looked the documentation at our STM module can understand,
that we do not require in any source codes of the project PICE.

I wish success to your project and unsubscribe from this list. Who wants
answer pse mail to karen@ampr.demos.su

Karen, ra3apw
Russian AMPR coordinator
Vice-president of AMSAT-R

--
Karen Tadewosyan
Chief of technical department
Compas+Radio
Moscow
Russia

Tel: +7 (095) 956-13-94
Fax: +7 (095) 956-15-21
Email: ra3apw@ampr.demos.su
http://www.compas-r.ru
http://ra3apw.demos.su
ICQ: 4752559

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230. [picsig] Re: PICE090 and Valid LED

From: "Mark Grennan" <mgrennan@fleming.com>
Date: Wed, 17 Mar 1999 9:24:49
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-11125-1999.03.17-09.27.09--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On 03/16/99, ""Byon Garrabrant" <byon@mail.com>" wrote:

> The VALID light should turn on when the PIC-E has a VALID fix
> from the GPS. If the light is lit, and you unplug the GPS, or lose
> enough satelites, then the light will turn off after a small delay.
>

It turns out this was the problem with my not showing up on the map where
I should be. It was not the "Droped Charater" problem.

I didn't know I needed to have "Valid light" on. And so, neither does the
PIC-E 090 software. It transmited data (Wrong data) anyway. I think the
transmit shouldn't work unless the pic has valid data. Or, it should
transmit some "HOME" location.

Besides my not knowing how the program works, It turns out, TripMates
REQUIRES A GROUND PLAIN! Thats wright boys and girls, If a TripMate dosn't
have at least a 1 1/2 foot square of sheet metal under it, it dosn't work.
I have two of them, one old one new. I have both six feet out the window of
the shack on a long cable. Both started up and passed data but would not
pick up a satelite untill I put on an old computer case. Then within
seconds, I knew where I was. Bingo "Valid Light".

Thanks Guys.

Mark Grennan KD5AMB

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

231. [picsig] Re: PICE090 and Valid LED

From: John Hansen <hansen@fredonia.edu>
Date: Wed, 17 Mar 1999 11:06:17 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-11128-1999.03.17-10.07.07--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 09:24 AM 3/17/99 +0000, you wrote:
>On 03/16/99, ""Byon Garrabrant" <byon@mail.com>" wrote:
>
>> The VALID light should turn on when the PIC-E has a VALID fix
>> from the GPS. If the light is lit, and you unplug the GPS, or lose
>> enough satelites, then the light will turn off after a small delay.
>>
>
>It turns out this was the problem with my not showing up on the map where
>I should be. It was not the "Droped Charater" problem.
>
>I didn't know I needed to have "Valid light" on. And so, neither does the
>PIC-E 090 software. It transmited data (Wrong data) anyway. I think the
>transmit shouldn't work unless the pic has valid data. Or, it should
>transmit some "HOME" location.

The reason for this is the MIC-E protocol contains a field that indicates
whether the reading it is transmitting is valid or out of date. Thus the
information that your position is out of date is being broadcast by the PIC-E;
it's just that most of the APRS client software doesn't differentiate between
current and out of date positions.

John, W2FS

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232. [picsig] Re: (2) Moscow APRS module

From: Jeff King <jeff@aerodata.net>
Date: Wed, 17 Mar 1999 12:22:44 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-11139-1999.03.17-11.15.47--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Karen:

Aren't you overreacting? In my case, I just said that it was to bad
you were not passing out source code.... you have no obligation
to do so. Is someone sending you mail off list to prompt this kind
of reaction? I've seen nothing on the list that would lead to this
kind of reaction from you....

I'm sorry that the folks at TAPR, Pacomm and Clement Engineering
wouldn't give you there source code in the past, but that has nothing
to do with the PICSIG.

PICSIG is (or should be) about sharing ideas. This is not
limited to source code, but also includes operational issues, hardware
and various other things.

So if you don't want to share software that's fine, share your other
experiences. No-one is (that I know of) asking you to break your
former arrangements.

-Jeff wb8wka

Karen Tadewosyan wrote:

<Various unrelated past misdeeds deleted>

> 6. When I have found on TAPR web site the project PICE and has
> subscribed for it 10 days ago, thought simply to exchange new reasons
> on the given problem with the developers. I did not assume, that for
> participation in this project, I should break all former arrangements.
> All who looked the documentation at our STM module can understand,
> that we do not require in any source codes of the project PICE.
>
> I wish success to your project and unsubscribe from this list.

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233. [picsig] Re: Open Source Lives on APRS!!!

From: "Hall, Erik (Exchange)" <Erik.Hall@Bear.COM>
Date: Wed, 17 Mar 1999 12:35:42 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-11144-1999.03.17-11.39.47--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

This is exactly the kind of project that makes my giddy....

....and also exactly the kind of project that makes my fiancée wish I had a
different hobby.

(y'all should have seen her when I demonstrated that I, after a few months
building hardware and writing code, could turn on my stereo, TV, and house
lights over the radio. Her reaction: "Great, you can turn on your stereo
from 20 miles away. How useful.")

-Erik

> -----Original Message-----
> From: Ray Vaughan [SMTP:ray@rayvaughan.com]
> Sent: Tuesday, March 16, 1999 3:35 PM
> To: TAPR PIC Development Special Interest Group
> Subject: [picsig] Re: Open Source Lives on APRS!!!
>
> >But, when I explained I wanted to car to be able to tell the house when
> it
> >was home and then to turn on the lights and find StarTrek on TV for me
> >before I arrived. He smiled and ask how it worked.
>
> I was thinking in the car about an application based on APRS the other
> day...
>
> I would have one published phone number. A computer getting the APRServe
> data and a running call answering/forwarding program would compare my
> car's
> current location to places I'm known to be (office, home, or moving).
> From
> this data, the system would forward a call to me to the most logical
> location based on my location (office line, home line or cellular). Heck,
> I could even get it to call me at the bar.
>
> "Thank you for calling. According to my sensors, Ray is currently at
> work.
> Please hold the line while I transfer your call to his office"
>
> Scary, ain't it?
>
>
>
> Ray, KD4BBM
>
> ---
> You are currently subscribed to picsig as: erik.hall@bear.com
> To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

****
Bear Stearns is not responsible for any recommendation, solicitation, offer or
agreement or any information about any transaction, customer account or account
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****

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234. [picsig] VALID LED SUITE

From: "Richard Aubin" <aubinri@total.net>
Date: Mon, 25 Dec 1995 19:55:42 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-11210-1999.03.17-18.54.06--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Is there any intentions to put up a patch to change the standard APRS
msg when the
GPS signal is not valid . If not , I might try to put one up but it
will   be much slower than what
others might do .

There is some evident disagreement on   how all the source code are
shared , I have some concern
that even if the MICE encoding uses the ressource more efficiently , it
might never show up on
any of the subsequent version of the all the other "non open source code
" version that are around .
Maybe I am not up to date in the up coming development .
Since up to now almost all APRS stations are running on some proprietary
codes , there need to
be a very strong movement in favor of MICE coding to turn anything
around .

I hope it will happen and will make all I can up here to get the word
around .
Just like what's happening with LINUX we need more of that.

Rich
 VE2JDE

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235. [picsig] Re: VALID LED SUITE

From: "Mark Grennan" <mgrennan@fleming.com>
Date: Thu, 18 Mar 1999 17:21:38
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-11312-1999.03.18-17.24.00--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I'm working on it in my area.

We have a HAM Fest in Tulsa this weekend and I will be showing off the
PIC-E along with Palm APRS.

I have just created a good sized link system here in Okla. and I've got the
ear of the repeater gods. I think we may be including Mic-E on our
repeaters soon.

Are there any Mic-E links system anywhere now?

Mark G.

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236. [picsig] Re: Open Source Lives on APRS!!!

From: Jeff King <jeff@aerodata.net>
Date: Fri, 19 Mar 1999 13:24:39 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-11414-1999.03.19-12.17.45--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Mark Grennan wrote:
(the title, Open Source Lives on APRS!!!)

> Steve Dimse K4HG Wrote
>
>
> > recently resigned my "Official APRS" status, so that my Pic-E code and a
> > future project (XMLServe) may be open source. It is more fun being a
> > free-agent anyway.
>

Not to be nit picking here, but I don't think anything the core TAPR group
released can qualify as "Open Source". A standardized copyright header was
inserted in all TAPR released code, and a license/royality fee is being
requested
for non-amateur radio/commercial use. Or maybe I am wrong about what
"Open Source" stands for. I couldn't find a   definition on
http://www.opensource.org, but all definitions I have seen of it to date
don't require license fees (although many require that any source you
write must be released..... the is what Linux uses). The NetScape
"Open Source" agreement at http://www.mozilla.org/NPL/NPL-1.0.html
is similar to this as well.

I see nothing wrong with private individial/for profit company wanting to
make money off their labors, but I don't think you can consider this a
"Open Source" effort because of the core license/royality fees.

-Jeff

Netscape Open Source agreement (clip of relevent section)

      2.1. The Initial Developer Grant.
The Initial Developer hereby grants You a world-wide, *royalty-free*,
non-exclusive license, subject to third party intellectual property claims:

(a) to use, reproduce, modify, display, perform, sublicense and distribute
the Original Code (or portions thereof) with or without Modifications, or
as part of a Larger Work; and

(b) under patents now or hereafter owned or controlled by Initial
Developer, to make, have made, use and sell (``Utilize'') the Original
Code (or portions thereof), but solely to the extent that any such patent
is reasonably necessary to enable You to Utilize the Original Code (or
portions thereof) and not to any greater extent that may be necessary to
Utilize further Modifications or combinations.

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237. [picsig] Re: Open Source Lives on APRS!!!

From: Bob Nielsen <nielsen@primenet.com>
Date: Fri, 19 Mar 1999 12:06:15 -0700 (MST)
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-11422-1999.03.19-13.08.35--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I agree, TAPR hasn't really championed open source, but that doesn't mean
that we shouldn't head in that direction.

Actually, there are several definitions and philosopies being used and
Bruce Perens (k6bp) recently split from the Open Source Initiative over
some disagreements with Eric Raymond. The GNU license
<http://www.gnu.org> is probably the "most-free" approach. That site also
has some interesting discussions on the topic.

This probably isn't the best forum to deal with this subject, however
(tapr-sys?).

Bob

On Fri, 19 Mar 1999, Jeff King wrote:

> Mark Grennan wrote:
> (the title, Open Source Lives on APRS!!!)
>
> > Steve Dimse K4HG Wrote
> >
> >
> > > recently resigned my "Official APRS" status, so that my Pic-E code and a
> > > future project (XMLServe) may be open source. It is more fun being a
> > > free-agent anyway.
> >
>
> Not to be nit picking here, but I don't think anything the core TAPR group
> released can qualify as "Open Source". A standardized copyright header was
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> requested
> for non-amateur radio/commercial use. Or maybe I am wrong about what
> "Open Source" stands for. I couldn't find a   definition on
> http://www.opensource.org, but all definitions I have seen of it to date
> don't require license fees (although many require that any source you
> write must be released..... the is what Linux uses). The NetScape
> "Open Source" agreement at http://www.mozilla.org/NPL/NPL-1.0.html
> is similar to this as well.
>
> I see nothing wrong with private individial/for profit company wanting to
> make money off their labors, but I don't think you can consider this a
> "Open Source" effort because of the core license/royality fees.
>
> -Jeff
>
>
>
> Netscape Open Source agreement (clip of relevent section)
>
>   2.1. The Initial Developer Grant.
> The Initial Developer hereby grants You a world-wide, *royalty-free*,
> non-exclusive license, subject to third party intellectual property claims:
>
> (a) to use, reproduce, modify, display, perform, sublicense and distribute
> the Original Code (or portions thereof) with or without Modifications, or
> as part of a Larger Work; and

>
> (b) under patents now or hereafter owned or controlled by Initial
> Developer, to make, have made, use and sell (``Utilize'') the Original
> Code (or portions thereof), but solely to the extent that any such patent
> is reasonably necessary to enable You to Utilize the Original Code (or
> portions thereof) and not to any greater extent that may be necessary to
> Utilize further Modifications or combinations.
>
>
>
> ---
> You are currently subscribed to picsig as: nielsen@primenet.com
> To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org
>
>

Bob Nielsen   Internet: nielsen@primenet.com
Tucson, AZ   AMPRnet: w6swe@w6swe.ampr.org
DM42nh   http://www.primenet.com/~nielsen

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

238. [picsig] Re: Open Source Lives on APRS!!!

From: Jeff King <jeff@aerodata.net>
Date: Fri, 19 Mar 1999 14:53:59 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-11425-1999.03.19-13.47.01--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi Bob:

Bob Nielsen wrote:

> I agree, TAPR hasn't really championed open source, but that doesn't mean
> that we shouldn't head in that direction.

I was just seeing the title "Open Source" being passed about like
we had already arrived. I was just pointing out with the TAPR copyright
notice, it didn't really appear to be "Open Source" as is understood
by most. I do know the release of the code was delayed due to the time
spent working on this copyright notice, so I don't *think* it was
an oversight that it was worded the way it was.

Also, of note, is the gerbers/artwork for the PCB's was not released
at all.... even though a number of non-USA hams asked for them on
this list. Besides not adhering to any kind of "open source"
concept, it needs to be noted that many non-USA hams have to pay
excessive tariffs on the importation of goods, hence a fairly good reason
they might have a interest in doing there own PCB.

None-the-less, that fact that TAPR let something get out most certainly
is a step in the right direction.... its just not "Open Source" yet.

>
> This probably isn't the best forum to deal with this subject, however
> (tapr-sys?).

I remember being subscribed to that a few years ago.... never much
activity. I just checked and I no longer see it being offered.

Anyways, within the scope of the point I was making, seems fairly
relevant here as it delt with what was being posted as it related to
a copyright notice contained within the PIC-E code set. Unless yours
and my understanding of "Open Source" is wrong, I think the point
was made and it no longer need be discussed.

Now if you want to take this discussion further, I agree, we would need
a entire newsgroup to ideally chit-chat about changing TAPR....

-Jeff

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

239. [picsig] Re: Open Source Lives on APRS!!!

From: "Mark Grennan" <mgrennan@fleming.com>
Date: Fri, 19 Mar 1999 16:52:14
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-11445-1999.03.19-16.54.44--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On 03/19/99, "Jeff King <jeff@aerodata.net>" wrote:
> Not to be nit picking here, but I don't think anything the core TAPR group
> released can qualify as "Open Source". A standardized copyright header was
> inserted in all TAPR released code, and a license/royality fee is being
> requested
> for non-amateur radio/commercial use. Or maybe I am wrong about what
> "Open Source" stands for. I couldn't find a definition on
> http://www.opensource.org, but all definitions I have seen of it to date
> don't require license fees (although many require that any source you
> write must be released..... the is what Linux uses). The NetScape
> "Open Source" agreement at http://www.mozilla.org/NPL/NPL-1.0.html
> is similar to this as well.

Your not wrong. Your just being nit pic-y. ;-)

The truth be known, I'm tring to get started an "Open Hardware"
multi/band/mode transceiver.

I think some of the sole of amateur radio has died with kits like Heath. I
also see where new designs with new chips and groups working on different
parts could make an Open Hardware design work.

Or, Why only one TAPR? Why not a bunch of TAPR's all over the world each
designing different parts of one radio. Why not a World Amateur Radio
Design Team creating their own ICOM-706MKIIG?

I see PIC-E as a start. Maybe TAPR members could produce a bunch of designs
and the best could be distributed by TAPR like RedHat distributes Linux.
Maybe TAPR could distrubte a whole design kit, including PCB layout
software and a way for members to get their boards made.

Maybe this should be in another email list. Maybe every list.....

Mark Grennan KD5AMB

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

240. [picsig] Re: (2) Moscow APRS module

From: "Greg Jones, WD5IVD" <wd5ivd@tapr.org>
Date: Sat, 20 Mar 1999 16:27:55 -0600
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-11653-1999.03.20-16.49.35--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>I'm sorry that the folks at TAPR, Pacomm and Clement Engineering
>wouldn't give you there source code in the past, but that has nothing
>to do with the PICSIG.

and as most people forget (not you Jeff, but others), TAPR never owned the
rights to Source Code for the TNC-2. That was from someone else, same
reason TAPR never released source code for the MIC-E -- it belongs to
Clement Eng.

Cheers - Greg

Greg Jones, WD5IVD   Austin, Texas
wd5ivd@tapr.org   http://www.tapr.org/~wd5ivd

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

241. [picsig] Fwd: TCM3105NL

From: "Greg Jones, WD5IVD" <wd5ivd@tapr.org>
Date: Sat, 20 Mar 1999 16:42:16 -0600
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-11654-1999.03.20-16.49.56--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

FYI.

I just got this today and thought some other people might be interested.

I don't know who this fellow is -- so I take no responsibility if there are
problems.

Cheers - Greg

>From: "Tim Savoy" <TimSav@mginh.com>
>To: <wd5ivd@tapr.org>
>Subject: TCM3105NL
>Date: Thu, 18 Mar 1999 18:37:49 -0500
>MIME-Version: 1.0
>X-Priority: 3
>Status:
>
>
>Hello,
>
>I have stock of 600 TCM3150NL
>TEXAS INSTRUMENTS IC MODEM CHIP.
>I am not sure if you use these but I know it is used by makers of Packet
>Modems and telecommunication devices.
>These have been obsolete and are very difficult to procure.
>If you can use these, or if you know of someone who needs these please let
>me know.
>
>These are Brand new/Original Package.
>
>Regards
>Tim Savoy
>MGI-NH
>1-603-433-9373 Phone
>1-603-433-9376 Fax
><http://www.mginh.com>www.mginh.com
><mailto:timsav@mginh.com>timsav@mginh.com
>
>
>
>

Greg Jones, WD5IVD Austin, Texas
wd5ivd@tapr.org http://www.tapr.org/~wd5ivd

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

242. [picsig] pic-e programming and results

From: "kc5goi" <kc5goi@pacecar.infospeedway.net>
Date: Sun, 21 Mar 1999 12:29:21 -0600
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-11763-1999.03.21-12.33.39--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hello everyone. I have been programming my pic-e today and run across some problems. Let me first describe how I am going about the programing first.
    I was not able to use John Hansens program to directly flash the pic-e even after the mod he suggested and attaching directly to the comport of both my computers. I did use the option to genrate the hex file. I then used the picprog.exe program. It had not problems flashing the pic chip even using a 6 ft cable. I then put the pic-e on the air. I have interfaced it to my Alinco DJ-582. I use this radio for protable packet and it works fine. I set the pic-e to tx every 30 seconds and monitored the results. I had to turn passall on to see what was coming out. I have copied and pasted the results. At the time they were obtained I had lost gps lock. Having passall on is the only way I have to catch these packets. I did try pice090 at this time passall on wont even show those packets. I am monnitoring my packets using the terminal window in WinAPRS. I attached the results as a doc file. I am using the newest version on MPLAB 4.0 to handle the editing and compiling duties. I got is from Microships site this weekend.

In response to my question concerning the hello world program, thanks for the help Byon, I was able to install my call, compile and flash it to the pic-e. It worked great with passall off. I was not able to make it work the first digi but that is a non issue to me at this point. thanks for any help I get.

73, Guy
[Attachment: pic-e data.doc; application/msword; 271,872 bytes]

243. [picsig] Re: pic-e programming and results

From: "Guy Story" <kc5goi@pacecar.infospeedway.net>
Date: Sun, 21 Mar 1999 13:39:45 -0600
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-11767-1999.03.21-13.38.27--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Now I eat crow, after getting a GPS fix what looks like good packets to me and makes it through with passall off is working great. Look for kc5goi-6 on the map. That is the pic-e.

Guy

> -----Original Message-----
> From: kc5goi <kc5goi@pacecar.infospeedway.net>
> To: TAPR PIC Development Special Interest Group <picsig@lists.tapr.org>
> Date: Sunday, March 21, 1999 12:30 PM
> Subject: [picsig] pic-e programming and results
>
> Hello everyone. I have been programming my pic-e today and run across some problems. Let me first describe how I am going about the programing first.
> I was not able to use John Hansens program to directly flash the pic-e even after the mod he suggested and attaching directly to the comport of both my computers. I did use the option to genrate the hex file. I then used the picprog.exe program. It had not problems flashing the pic chip even using a 6 ft cable. I then put the pic-e on the air. I have interfaced it to my Alinco DJ-582. I use this radio for protable packet and it works fine. I set the pic-e to tx every 30 seconds and monitored the results. I had to turn passall on to see what was coming out. I have copied and pasted the results. At the time they were obtained I had lost gps lock. Having passall on is the only way I have to catch these packets. I did try pice090 at this time passall on wont even show those packets. I am monnitoring my packets using the terminal window in WinAPRS. I attached the results as a doc file. I am using the newest version on MPLAB 4.0 to handle the editing and compiling duties. I got is from Microships site this weekend.
> In response to my question concerning the hello world program, thanks for the help Byon, I was able to install my call, compile and flash it to the pic-e. It worked great with passall off. I was not able to make it work the first digi but that is a non issue to me at this point. thanks for any help I get.
>
> 73, Guy

244. [picsig] Routing Statements

From: "Mark Grennan" <mgrennan@fleming.com>
Date: Mon, 22 Mar 1999 11:21:48
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-11911-1999.03.22-11.24.23--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I have learned WIDE, WIDE, WIDE, WIDE, WIDE is not the way to go.

I when to the Tulsa Ham Fest. this last week end and picked up a flyer from
the local APRS group describing a new "RELAY, WIDE4-4" command.

Having read over the document quickly, it looks like they have a way to
control repeating stations they have already relayed.

Does this sound right?

I thought the "WIDE " had to be six charaters. Will this seven charater
string work?

Should I got read the APRS specs? :-)

Mark Grennan KD5AMB

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

245. [picsig] Re: Routing Statements

From: "Richard C. Bandla" <rbandla@voicelogix.ca>
Date: Mon, 22 Mar 1999 13:26:19 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>

Message-ID: <LYR6890-11930-1999.03.22-12.28.53--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Mark,
APRS digipeater stations should have the special software in them to
prevent looping, and to substitute their own call for the WIDE, but they
may not have this special software.

Depending on the setup, (yes, you shud read the APRS documentation - it
explains this better than i can), a variety of paths are appropriate.
Remember - the path specified in the originating station is what determines
the path followed by the originating station's position, beacon or status
messages.

In my personal oppinion subject to flame, I cannot understand when 4 or 5
WIDES would be appropriate. With all the IGates, etc. around, more than 3
seems like QRM.

On the other hand, it may be quite appropriate to have 3 to 8 specific
calls specified in the path, if it is important to get packets down a
specific path and only that path. i.e. through a system of caves, or thru a
canyon, or along any chain of digis.

Hope this helps and doesn't confuse.
73
Rick

At 11:21 AM 03/22/1999, you wrote:
>I have learned WIDE, WIDE, WIDE, WIDE, WIDE is not the way to go.
>
>I when to the Tulsa Ham Fest. this last week end and picked up a flyer from
>the local APRS group describing a new "RELAY, WIDE4-4" command.
>
>Having read over the document quickly, it looks like they have a way to
>control repeating stations they have already relayed.
>
>Does this sound right?
>
>I thought the "WIDE " had to be six charaters. Will this seven charater
>string work?
>
>Should I got read the APRS specs? :-)
>
>Mark Grennan KD5AMB
>
>---
>You are currently subscribed to picsig as: ve3cvg@rac.ca
>To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org
>
>
>
1355 Minogue Cres., Cumberland, ON, Canada K4C1B4
phone 613 833-2787 (home)   fax 613 833 3032
phone 613 833-1950 (work)

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

246. [picsig] Re: Routing Statements

From: "Steven R. Bible" <srbible@gate.net>
Date: Mon, 22 Mar 1999 13:28:25 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-11931-1999.03.22-12.33.11--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 11:21 AM 3/22/99, you wrote:
>I have learned WIDE, WIDE, WIDE, WIDE, WIDE is not the way to go.
>
>I when to the Tulsa Ham Fest. this last week end and picked up a flyer from
>the local APRS group describing a new "RELAY, WIDE4-4" command.
>
>Having read over the document quickly, it looks like they have a way to
>control repeating stations they have already relayed.
>
>Does this sound right?
>
>I thought the "WIDE " had to be six charaters. Will this seven charater
>string work?

No, you're missing that the "-4" is the SSID. So "WIDE4 " is the seven
characters. Then make sure "4" is the SSID.

>Should I got read the APRS specs? :-)

Yes. Find the READMEs in the DOS APRS program. Also, make sure you
understand AX.25. The spec can be downloaded from the TAPR web site. Find
the link to publications, AX.25 Version 2.2. It's a downloadable PDF
publication.

Plus you can follow these issues on the APRSSIG.

- Steve
 (n7hpr@tapr.org)
 (n7hpr@amsat.org)

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

247. [picsig] A PIC in Space!

From: eric.r.cook@exgate.tek.com
Date: Mon, 22 Mar 1999 11:14:09 -0800
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-11939-1999.03.22-13.16.48--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

=========
                                SpaceNews
                                =========

                           MONDAY MARCH 22, 1999

* PICOSATELLITE PROJECT *
=========================
Hank Heidt, N4AFL, reports that a one pound (4 inch x 3 inch x 1 inch)
Amateur Radio Picosatellite is under construction by a team in the
Washington DC area for Stanford University's OPAL launch in September
1999. Designers need to deliver the flight ready picosat by April 1
so they are under a very tight schedule, but hope to get everything
integrated and tested in time.

The picosatellite will be called "Stensat", and is intended for use by
amateur radio operators world wide and will operate as a single channel
Mode "J" FM voice repeater. The earth-to-space uplink frequency will
be 145.840 MHz and the space-to-earth downlink will be 436.625 MHz.

Stensat will periodically transmit 1200 baud AX.25 for broadcasting the
following telemetry: temperature, bus current, bus voltage, receiver RSSI
and 3 digital "0/1" sun sensors.   Additionally, amateur radio operators
will be able to "PING" the satellite causing the satellite to broadcast a
telemetry packet by transmitting a six digit DTMF command to the receiver
uplink.

Web pages describing the project may be found at the following URLs:

        http://www.erols.com/hheidt

        http://ssdl.stanford.edu/opal/index.html

Hank asks that if anyone has any spare space rated black and/or white
paint to please contact him at: hheidt@erols.com.

[Info via Hank Heidt, N4AFL]

Eric R. Cook
eric.r.cook@tek.com
Tektronix, Inc.

You are currently subscribed to picsig as: lyris.picsig@tapr.org

To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

248. [picsig] false mic-e emergncy sent

From: "Guy Story" <kc5goi@pacecar.infospeedway.net>
Date: Mon, 22 Mar 1999 15:15:28 -0600
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-11954-1999.03.22-15.14.00--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I just got a message from Mark Sproul telling me that the pic-e I am using sent out a mic-e alarm. I dont have that set in either option. I am also seeing incorrect posits are making it through. Sevral times I have popped up off the cost of Africa. I have also seen my symbol change form time to time. I have verified that the setting to the tnc are correct. Here is the last posits that I have, I can give more but it is a bit long. I will furnish it if anyone wants it. I programmed the pic-e to show as committed on both option settings. I used gps-e to create the hex file and picprog to send it to the pic-e.

```
KC5GOI-6>3jr$,RELAY,WIDE*,WIDE:`e$nR/
KC5GOI-6>3squ3y,RELAY*,WIDE,WIDE:`}!/lT[/
KC5GOI-6>3squ3y,RELAY*,WIDE,WIDE:`}!/lT[/
KC5GOI-6>3squ3y,RELAY,WIDE*,WIDE:`}!/lT[/
KC5GOI-6>0yw2.5,RELAY*,WIDE,WIDE:`![l /
KC5GOI-6>0yw2.5,RELAY*,WIDE,WIDE:`![l /
KC5GOI-6>0yw2.5,RELAY,WIDE*,WIDE:`![l /
KC5GOI-6>0yw1.1,RELAY*,WIDE,WIDE:`?)l /
KC5GOI-6>0yw1.1,RELAY*,WIDE,WIDE:`?)l /
KC5GOI-6>0yw1.1,RELAY,WIDE*,WIDE:`?)l /
KC5GOI-6>3squ3x,RELAY,WIDE,WIDE:`}!-l4o/
KC5GOI-6>3squ3x,RELAY,WIDE,WIDE:`}!-l4o/
KC5GOI-6>3squ3x,RELAY*,WIDE,WIDE:`}!-l4o/
KC5GOI-6>3squ3x,RELAY,WIDE*,WIDE:`}!-l4o/
KC5GOI-6>#l@,1,RELAY*,WIDE,WIDE:`QMl /
KC5GOI-6>#l@,1,RELAY*,WIDE,WIDE:`QMl /
KC5GOI-6>#l@,1,RELAY,WIDE*,WIDE:`QMl /
KC5GOI-6>0yw0.7,RELAY*,WIDE,WIDE:` l /
KC5GOI-6>0yw0.7,RELAY*,WIDE,WIDE:` l /
KC5GOI-6>0yw0.7,RELAY,WIDE*,WIDE:` l /
KC5GOI-6>0yw0.9,RELAY,WIDE,WIDE:`\Sl /
KC5GOI-6>0yw0.9,RELAY*,WIDE,WIDE:`\Sl /
KC5GOI-6>0yw0.9,RELAY,WIDE,WIDE:`\Sl /
KC5GOI-6>0yw0.9,RELAY,WIDE*,WIDE:`\Sl /
KC5GOI-6>0yw2.5,RELAY,WIDE*,WIDE:`![l /kc5goi testing pic-e eval kit
KC5GOI-6>0yw2.5,RELAY,WIDE*,WIDE:`![l /kc5goi testing pic-e eval kit
KC5GOI-6>3squ3v,RELAY*,WIDE,WIDE:`}!"l>|/
KC5GOI-6>3squ3v,RELAY*,WIDE,WIDE:`}!"l>|/
KC5GOI-6>3squ3v,RELAY,WIDE*,WIDE:`}!"l>|/
KC5GOI-6>#l@,0,RELAY*,WIDE,WIDE:`QMl /
KC5GOI-6>#l@,0,RELAY*,WIDE,WIDE:`QMl /
KC5GOI-6>#l@,0,RELAY,WIDE*,WIDE:`QMl /
```

Guy Story, KC5GOI
Silver Dome Mobile Pk. # 79
Denton Texas, 76208
940.243.0754
kc5goi@infospeedway.net
http://www.infospeedway.net/~kc5goi/home.htm

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

249. [picsig] Re: false mic-e emergncy sent

From: John Hansen <hansen@fredonia.edu>
Date: Mon, 22 Mar 1999 20:15:45 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-11983-1999.03.22-19.22.21--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 03:15 PM 3/22/99 -0600, you wrote:
>I just got a message from Mark Sproul telling me that the pic-e I am using
>sent out a mic-e alarm. I dont have that set in either option. I am also
>seeing incorrect posits are making it through. Sevral times I have popped
>up off the cost of Africa. I have also seen my symbol change form time to

>time.

The symbol change is what happens when the packets are sent through the
Internet, but one or more of the characters are unprintable and are
dropped. Might I suggest that you turn TRACE ON on your TNC and then
(assuming your terminal program will allow it) copy the contents of the
terminal screen into a file or e-mail message and post that. If we can see
the actual hex values of the bytes that you are sending, it will be much
easier to diagnose what is wrong.

John, W2FS

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

250. [picsig] [aprssig] Re: "Minimum power required"

From: John Rauch <n4yxs@earthlink.net>
Date: Tue, 23 Mar 1999 14:26:53 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-12135-1999.03.23-13.30.58--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>Date: Tue, 23 Mar 1999 12:11:08 -0500
>To: picsig@list.tapr.org
>From: John Rauch <n4yxs@earthlink.net>
>Subject: [aprssig] Re: "Minimum power required"
>
>>From: "Joe Foor" <kf4dys@wfeca.net>
>>To: "TAPR APRS Special Interest Group" <aprssig@lists.tapr.org>
>>Subject: [aprssig] Re: "Minimum power required"
>>Date: Tue, 23 Mar 1999 10:51:02 -0600
>>X-MSMail-Priority: Normal
>>X-MimeOLE: Produced By Microsoft MimeOLE V4.72.3110.3
>>List-Unsubscribe: <mailto:leave-aprssig-7795X@lists.tapr.org>
>>List-Software: Lyris Server version 3.0
>>List-Subscribe: <mailto:subscribe-aprssig@lists.tapr.org>
>>List-Owner: <mailto:owner-aprssig@lists.tapr.org>
>>X-Message-Id: <011201be754d$8f243940$4515010a@kf4dys-0002>
>>Sender: bounce-aprssig-7795@lists.tapr.org
>>
>>someone wrote:
>>
>>>>I was wondering if anyone has constructed a mobile tracker that has a
>>>>remotely-controlled variable power output. This would enable a small
>>>>tracker to conserve batteries and when commanded by a base station,
>>>>to transmit anywhere say from 1/2 watt to 5 watts.
>>
>>
>>...and Jon Ogden <jono@enteract.com> replied:
>>>It's a great idea, but one potential problem is that you would need a
>>>whole lot of software at the digi end to keep track of which mobile
>>>needs to be at which power level, etc. And what if the mobile
>>>suddenly can't reach the digi on its lower power due to terrain, etc?
>>>Is it locked in that state. Lastly, we'd be introducing some
>>>handshaking here that would need to go on so that the mobile can get
>>>its power correct. And we begin to lose the unproto look and feel of
>>>APRS just sending UI frames.
>>>
>>>Still, this is something that could be developed. It's just not an
>>>easy task.
>>>
>>
>>It may not be quite that hard to do at the mobile end, since usually
>>the mobile can hear the digi even when it can't hit it. How about just
>>using something like a BASIC STAMP to monitor the TNC data out, seeing
>>if the tracker packet was digipeated? If two consecutive packets are
>>not digipeated then boost the power. Maybe every ten minutes it could
>>reduce the power, to test if high power is unnessary.
>>
>>Something similarly simple could be used to control the digi power out,
>>monitoring to see if the beacon was digied by the next digi in the net.
>>This would allow you to automatically reduce the power as conditions
>>improve.
>>
>>regards,
>>Joe
>>---

>>Electronics Instructor(retired), Miniature Repair Technician(retired),
>>Motorcycle Instructor(retired), Ditch Digger(retired), Sailor(retired),
>>Technical Writer(retired), Petty Bureaucrat(retired), Gambler(retired),
>>Truck Driver(retired), Jungle Guide(retired), Hog Farmer(retired)
>>
>>
>>
>>
>>---
>>You are currently subscribed to aprssig as: n4yxs@earthlink.net
>>To unsubscribe send a blank email to leave-aprssig-7795X@lists.tapr.org
>>
>>
>>
John Rauch
Orlando, Florida

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

251. [picsig] Re: [aprssig] Re: "Minimum power required"

From: "Steven R. Bible" <srbible@gate.net>
Date: Tue, 23 Mar 1999 16:56:46 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-12169-1999.03.23-15.59.15--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>I was wondering if anyone has constructed a mobile tracker that has a
>remotely-controlled variable power output. This would enable a small
>tracker to conserve batteries and when commanded by a base station,
>to transmit anywhere say from 1/2 watt to 5 watts.

Yes it can be done! The Garmin GSP35-LVS (or -LVC or -HVS) has a POWER
line signal that you can assert (+5 volts) that will power down the
receiver. The data sheets say to 20 mA. Normal running current for the
-LVS is 120 mA.

The PIC-E (http://www.tapr.org/tapr/html/Fpice.html) can assert this line.
I am not certain if any of the evaluators has done this, all it takes is a
little software :-). But the I/O line are there.

The evaluation phase of the PIC-E is drawing to a close. Hopefully (cross
fingers) the production units will be ready by Dayton. You can join the
PICDEV SIG where discussion of the PIC-E is taking place, and other PIC
programming projects.

- Steve, N7HPR
  n7hpr@tapr.org
  n7hpr@amsat.org

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252. [picsig] Production unit schematic, was Re: "Minimum power required"

From: Jeff King <jeff@aerodata.net>
Date: Tue, 23 Mar 1999 17:10:48 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-12174-1999.03.23-16.13.17--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Steve:

"Steven R. Bible" wrote:

>
> The evaluation phase of the PIC-E is drawing to a close. Hopefully (cross
> fingers) the production units will be ready by Dayton.

I think as soon as you complete the schematic for the production unit, and
commit it to the PCB house, you should make sure the eval testers get a
copy also. I'm assuming you made some I/O pin re-assignments. Then
the eval board owners can "blue wire" their eval boards to match the
production board. While this won't help any PCB mechanical issues, it
will help shake out software issues related to the changes in I/O assignments.

-Jeff

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253. [picsig] Production Unit Board Layout

From: "Mark Grimes WA0TOP" <Mark_Grimes@compuserve.com>
Date: Thu, 25 Mar 1999 12:24:39
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-12468-1999.03.25-12.27.18--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Here are some things I would like to see on the new PC board:

1. Lots more grounded copper on the back of the board. Especially around the mounting holes, both for the card itself into a box and the parts on the card. I solved a "flickering busy" problem by connecting both DB-9 frames to the PC card ground. There's no place to connect a scope ground, either. Provide a hole for a turret.

2. I want to power my GPS through the DB-9. Bring input power from P-3, through a pair of pads for a fuse, to pin 9 of P1. The board could be routed to allow selection of the voltage and/or DB-9 pin by the fuse lead placement.

3. Provide a place for a switch and fuse in the input power. There are some real small fuses available, like the Littlefuse 2AG or 473 series.

4. Generally, controls and indicators should be on the front and cables should be on the back. The microphone connections are difficult to place as the unit may or may not be installed near the radio. When in doubt, put them on the back.

5. I never need to read the GPS data while programming the PIC. Do we need both P1 and P2? A well placed jumper might allow P2 to go away. Put the new jumper near JP4.

6. Footprint for a more robust voltage regulator (TO-220) if needed.

FWIW,
Mark, WA0TOP

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254. [picsig] FRAM daughter board

From: James Jefferson <jjeffers@deskmedia.com>
Date: Sat, 27 Mar 1999 07:35:49 -0600
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-12672-1999.03.27-07.38.28--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi guys,

I made a daughter board that has two 8 PIN DIP sockets on it to accomodate serial EEPROM / FRAM. I'm sharing a data line between the two sockets, but each has its own clock line. With normal "microchip" type EEPROMs this would be needed because they have a 3-bit address, however the FRAM doesn't. I've taken and not passed through RB0, RB6, and RB7 in order to get those IO's.

Basicaly it is just a piece of perf board with two 9 pin rows of headers on the bottom, a 18 PIN DIP, two 8 PIN DIPs, and lots of kynar wire.

This board now allows to get to work on my KISS TNC. At the momment I have all of the ring buffers working correctly, the un-kiss'ifying working, and the CRC working. Basicly a KISS packet comes in from the computer, stored in the FRAM until DCD drops, then is un-kiss'ified and sent out the modem.

Byon: How does your interrupt scheme work? I'm been crunching some number and I can't find a particularly good interrupt period based on the 10MHz clock... Maybe I should be less picky on getting a perfect interrupt and simply get close, then do the rest with software delay?

-James Jefferson KB0THN
jjeffers@deskmedia.com
http://www.deskmedia.com/~jjeffers/

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255. [picsig] Re: FRAM daughter board

From: Jeff King <jeff@aerodata.net>
Date: Sat, 27 Mar 1999 11:44:50 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-12692-1999.03.27-10.47.02--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

James Jefferson wrote:

> I made a daughter board that has two 8 PIN DIP sockets on it to accomodate
> serial EEPROM / FRAM.

Great James!

> each has its own clock line. With normal "microchip" type EEPROMs this

MicroChip also makes a line of I2C EEPROM's, some quite a bit larger
then their "3 wire" variety. I believe the pin-outs are identical to the FRAM
chip. Actually, the "3 wire" takes 4 lines to control it (DI, DO, CLK, CS),
although you can multiplex DI and DO to run it off three. I'd personally just
stick with I2C as there is so much out there for it, and being IO starved, it is

a better use of resources. Don't forget the pullup for the I2C device, I think
the FRAM would need one also.

-Jeff

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256. [picsig] PTT

From: "Mark Grennan" <mgrennan@fleming.com>
Date: Sat, 27 Mar 1999 19:35:46
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-12746-1999.03.27-19.38.35--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I have been working with my PTT circute for over a week now and it is
working great so here is.

But I found it didn't work perfect unless I put a 10k resistor between VDD
and pin 2 of the PIC (RA3 PTT_IN).

Mark Grennan KD5AMB

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257. [picsig] GPSE-2 Problem?

From: Gary Sanders <gsanders@gte.net>
Date: Sun, 28 Mar 1999 02:02:11 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-12773-1999.03.28-01.05.02--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I ran into an embarrassing situation this evening, and I wonder
if anyone else has experienced it.

I used the modification program to customize GPS2-E for my call
and etc., and programmed the PIC-E, then put it on the air on
my HT on the bench for testing.

I noticed that it was placing me on the equator, somewhere in
South America. In looking at the data received by the TNC, the
latitude was being transmitted as 0 degrees, while the Longitude

was transmitted correctly.

I tried changing various parameters, and occasionally it would
locate me correctly.

I then tried the assembler version, and everything worked properly.

It wasn't until a couple of hours later that I discovered that
when I was using the GPS2-E version, the PIC-E was transmitting
in an emergency mode, and apparently a goodly number of folks
are looking for me with hatchets and pitchforks.

Anyone else have this problem?

And, yes, I've now learned that initial testing should be done
with the PIC-E hardwired to the TNC. (I don't think it would
even be safe to test into a dummy load in this area.)

Also, anyone have any suggestions how I can smooth some terribly
ruffled feathers?

Gary
WB0BZR

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258. [picsig] Re: FRAM daughter board

From: "Byon Garrabrant" <byon@mail.com>
Date: Sat, 27 Mar 1999 23:39:46 -0800
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-12774-1999.03.28-01.45.01--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On 27 Mar 99, at 7:35, James Jefferson wrote:

> Byon: How does your interrupt scheme work? I'm been crunching some number
> and I can't find a particularly good interrupt period based on the 10MHz
> clock... Maybe I should be less picky on getting a perfect interrupt and
> simply get close, then do the rest with software delay?

Mine is not exact. I take the 10Mhz crystal, which has a 2.5Mhz
instruction time (divide by 4). I then set timer 0 to divide by 16,
which has timer 0 incrementing at 156.25 Khz. Then, after every
zero crossing, I bump timer 0 forward by 126 (256 - 130), which
means the timer overflows after every 130 timer increments, which
gives me an interrupt rate of 1201.923, which is 0.16% accurate.

FWIW, It was a little trickier when I was using a 4Mhz clock, and
generating the 1200 and 2200 Hz tones myself with a resistor
ladder. :) I think then I still cycled every 130, but didn't divide by
16, so I got 16 steps for each 1200 Hz cycle, and 9 for each 2200
hz cycle.

I hope to do some work to prepare my packet receiving code for
other's consumption tomorrow. I plan to interrupt at 1200 * 8 or *
16, and sample the incoming packet each interrupt and divide
down. I'll use the same interrupt to send serial (at 9600 or 19200)
to the computer of each byte I receive. I hope to make it send a
modified KISS format back to the computer. The modified KISS
will involve an added code to say "Cancel this packet I am sending,
it has a CRC error", since I cannot receive the entire packet before
starting sending to the computer.

Byon
_____
 Byon Garrabrant N6BG byon@mail.com

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259. [picsig] Re: GPSE-2 Problem?

From: John Hansen <hansen@fredonia.edu>
Date: Sun, 28 Mar 1999 05:53:16 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-12778-1999.03.28-05.02.15--lyris.picsig#tapr.org@lists.tapr.org>

Rendered body type: text/plain

At 02:02 AM 3/28/99 -0500, you wrote:

>Anyone else have this problem?
>
>And, yes, I've now learned that initial testing should be done
>with the PIC-E hardwired to the TNC. (I don't think it would
>even be safe to test into a dummy load in this area.)
>

I think that this is related to the "destination address" correction factor in the mic-e documentation being incorrect when I wrote the code for this. I've been working on fixing it, but am leaving on vacation this morning and will be back in a week. I expect to finish fixing it at that point. In terms of smoothing ruffled feathers, quite frankly, I don't know what else to expect when the published documentation was just flat out wrong!

See you next week,

John W2FS

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260. [picsig] KISS mod and DCD

From: James Jefferson <jjeffers@deskmedia.com>
Date: Sun, 28 Mar 1999 07:22:43 -0600
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-12798-1999.03.28-07.25.18--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>modified KISS format back to the computer. The modified KISS
>will involve an added code to say "Cancel this packet I am sending,
>it has a CRC error", since I cannot receive the entire packet before
>starting sending to the computer.

If I were doing that then I would change the frame type (which preceedes every KISS frame) to something like 0xFE. Kiss specifies:

The following type is defined for frames to the host:

Type	Function	Comments
0	Data frame	Rest of frame is data from the HDLC channel.

With the linux kiss implementation it would be a snap to add another if statement that would throw the frame out.

What are you doing for DCD? I'm planning to watch for: 0xFE as AX.25 packet start, hardware carrier detect, and bit stuffing. If bit stuffing dies then I can effectivly throw out the packet, same with carrier detect.

Adios,

-James Jefferson KB0THN
jjeffers@deskmedia.com
http://www.deskmedia.com/~jjeffers/

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261. [picsig] Larger PIC

From: James Jefferson <jjeffers@deskmedia.com>
Date: Sun, 28 Mar 1999 07:26:51 -0600
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-12799-1999.03.28-07.29.24--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

My code for the KISS TNC is rapidly expanding and I need some more room to devolpe in. I've come up with some cash for a new programmer and UV eraser, but now I need to figure out what chip to use.

Only requirements are that it have the same pinout as 16F84 and it has at

least twice the program space. The current choice for the momment is the
PIC16C622 - everything else meeting the spec seems to be in devolpement...
I guess I not stricly limited to a 18 PIN chip, but I really don't need
more IO lines for this project! Any ideas?

BTW, if anyone has a used programmer to sell...

-James Jefferson KB0THN
jjeffers@deskmedia.com
http://www.deskmedia.com/~jjeffers/

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262. [picsig] Re: Larger PIC

From: "Steven R. Bible" <srbible@gate.net>
Date: Sun, 28 Mar 1999 08:54:11 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-12801-1999.03.28-07.56.32--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 07:26 AM 3/28/99 -0600, you wrote:
>
>My code for the KISS TNC is rapidly expanding and I need some more room to
>devolpe in. I've come up with some cash for a new programmer and UV eraser,
>but now I need to figure out what chip to use.
>
>Only requirements are that it have the same pinout as 16F84 and it has at
>least twice the program space. The current choice for the momment is the
>PIC16C622 - everything else meeting the spec seems to be in devolpement...
>I guess I not stricly limited to a 18 PIN chip, but I really don't need
>more IO lines for this project! Any ideas?

James, I have a PIC16CE625 sample from Microchip that is a good match.
Trouble is, that it's not for sale yet (at least not from Digikey). It's a
step up from the '622 in that it has 128 bytes of EEPROM. I think you
can't go wrong with the '622 and when the '625 comes out you can easily
migrate to it.

I see on the Digikey site that the PIC16C622/JW-ND is $10.14. And OTPs are
$5.45 in ones (20 MHz version).

>BTW, if anyone has a used programmer to sell...

I'd recommend the PICSTART PLUS, but at $199.00 it is one of the more
expensive units. It will program anything Microchip puts out. It was easy
to upgrade at the internal microcontroller was another PIC. I bought and
reprogrammed it via the code on Microchip's web page, and I was upgraded.

There are other less expensive programmers out there. Parallax, Micro
Engineering Labs, and one other I recall. I think the lowest cost unit
I've seen is aroun $60.00. However, it only takes 18 pin PICs. If you
want other sizes you need to buy an adapter. So the price starts heading
upwards each time you buy an adapter. That's why I bought the PICSTART PLUS.

microEnginering Labs
   http://www.melabs.com/mel/home.htm

Hope this helps,

- Steve, N7HPR
  n7hpr@tapr.org
  n7hpr@amsat.org

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263. [picsig] Re: FRAM daughter board

From: Tim Salo <salo@networkcs.com>
Date: Sun, 28 Mar 1999 12:35:47 -0600 (CST)
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>

Message-ID: <LYR6890-12857-1999.03.28-12.38.38--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> From: "Byon Garrabrant" <byon@mail.com>
> To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
> Date: Sat, 27 Mar 1999 23:39:46 -0800
> Subject: [picsig] Re: FRAM daughter board
>   [...]
> The modified KISS
> will involve an added code to say "Cancel this packet I am sending,
> it has a CRC error", since I cannot receive the entire packet before
> starting sending to the computer.

For what it is worth, HDLC defines an abort sequence that kills off the
current frame.

The 1988 version of X.25 (Blue book) specifies:

        "2.2.10 Frame abortion

        "Aborting a frame is performed by transmitting at least seven
        contiguous 1 bits (with no inserted 0 bits)."

AX.25 Version 2.0 states:

        "2.2.10 Frame Abort

        "If a frame must be prematurely aborted, at least fifteen
        contiguous ones shall be sent with no bit stuffing added."

AX.25 Version 2.2 states the same thing in section 3.10.

Of course, this doesn't have much relevance, since the TNC/host protocol
has no reason to reflect the bits actually on the wire [or in the air].

(Do people actually implement frame abort? When is it actually used?
Why fifteen rather than seven bits?)

More trivia from,

-tjs

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264. [picsig] Re: KISS mod and DCD

From: "Byon Garrabrant" <byon@mail.com>
Date: Sun, 28 Mar 1999 11:35:42 -0800
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-12860-1999.03.28-13.40.55--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On 28 Mar 99, at 7:22, James Jefferson wrote:

> >modified KISS format back to the computer. The modified KISS
> >will involve an added code to say "Cancel this packet I am sending, it
> >has a CRC error", since I cannot receive the entire packet before
> >starting sending to the computer.
>
> If I were doing that then I would change the frame type (which preceedes
> every KISS frame) to something like 0xFE. Kiss specifies:
>
> The following type is defined for frames to the host:
>
> Type   Function   Comments
>
>   0   Data frame   Rest of frame is data from
>   the HDLC channel.
>

No, I need the ability to cancel the frame in mid-packet. Since I
am not buffering the packet, but rather sending to the computer as
I receive it, is I get an invalid CRC at the end, I need a way to
communicate to the computer that the frame is invalid, even though
at the beginning of the frame, I thought it would be vaild (and thus
the 0 type).

I was thinking of adding a new special char to the KISS definition:

Abbreviation - TFINV
Description - Invalidate current frame
Hex Value - DE

TFINV would be preceeded with a FESC (0xDB)   Currently 0xDB
0xDE is undefined. Can anyone comment on this addition? Bad,
Good, Redundant??

> What are you doing for DCD? I'm planning to watch for: 0xFE as AX.25
> packet start, hardware carrier detect, and bit stuffing. If bit stuffing
> dies then I can effectivly throw out the packet, same with carrier detect.

I had not thought about it yet, for starters I would use the MX614's
energy detect to avoid transmitting over others. But, I think your
suggestion would work well for DCD. In my experiments of
decoding "noise", I saw long streams (> 10 bits) of one tone or the
other.

Byon

_____
 Byon Garrabrant N6BG byon@mail.com

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265. [picsig] Re: Stand-Alone-Operation of MX614

From: "Joao Pissarro" <pissaro@mail.telepac.pt>
Date: Mon, 29 Mar 1999 22:50:05 +0100
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-13028-1999.03.29-16.04.00--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I have found this modem compatible with baycom...

Hope it is of some use.

73
Joao, ct1dbh

-----Original Message-----
From: John Hansen <hansen@fredonia.edu>
To: TAPR PIC Development Special Interest Group <picsig@lists.tapr.org>
Date: Sábado, 13 de Março de 1999 17:43
Subject: [picsig] Re: Stand-Alone-Operation of MX614

>
>>
>>My question is :
>>Is there any experience on using this chip as a 1200
>>Baud-Stand-Alone-AFSK-Decoder (without control by microcontroller)?
>>According to the Data-Sheet, both control inputs M0 and M1 need to have
>>"0"-Level for RX-Mode and 20mS of "H"-Level when starting operation.
>>
>
>The engineers at MX-COM insist this is the case to, but my experience with
the
>chip is that you can start it up in receive mode (without have M0 and M1
both
>low first) and it seems to work fine.
>
>John, W2FS
>
>---
>You are currently subscribed to picsig as: pissaro@mail.telepac.pt
>To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org
>
[Attachment: img24.gif; image/gif; 23,688 bytes]

266. [picsig] HK 4001 WX to APRS

From: Mike Berg <mikeberg@midstate.tds.net>
Date: Mon, 29 Mar 1999 21:55:39 -0800
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-13079-1999.03.29-22.30.47--lyris.picsig#tapr.org@lists.tapr.org>

Rendered body type: text/plain

Hi,   I'm building an interface to mate my trusty old HeathKit 4001
digital wx station to a tnc, for now, then eventually/hopefully meld
it with the PIC-E code for tnc-less remote APRS operation.
My problem is getting APRS to "see" my wind direction data.
It appears to parse out the speed, temp and barometer ok, but the
direction comes up ****/. That part of the rx'd packet looks like:
        ...09501.00W_310/020... yet the wx/disp/winds command yields
        ****/020
Running and old ver 7.7b DOS APRS prgm.
What exactly does a weather station packet have to look like?
Another question I have regards the programs I've downloaded. There
seems to be a lot more commands used than the 35 listed in my PIC
primers. Where can I get a list of them and their functions?

73 Mike N0QBH

PS: Great work on the PIC-E! Where's the kit waiting list?

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267. [picsig] Re: HK 4001 WX to APRS

From: Steve Dimse K4HG <k4hg@tapr.org>
Date: Tue, 30 Mar 1999 00:37:23 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-13089-1999.03.29-23.43.03--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On 3/30/99 12:55 AM Mike Berg (mikeberg@midstate.tds.net) wrote:

>Running and old ver 7.7b DOS APRS prgm.

That is the problem. The protocol changes often, and an old version may
not understand a new packet. In this case, the format was added in
version 7.93. Get the latest version...

>What exactly does a weather station packet have to look like?

It isn't completely accurate, but see:

http://www.aprs.net/vm/dos/WX.HTM

Steve K4HG

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

268. [picsig] Re: HK 4001 WX to APRS

From: James Jefferson <jjeffers@deskmedia.com>
Date: Tue, 30 Mar 1999 06:46:16 -0600
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-13126-1999.03.30-06.48.55--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> There
>seems to be a lot more commands used than the 35 listed in my PIC
>primers. Where can I get a list of them and their functions?

Mike,

Most of the code you see referenced on this list is 'C' code, not assembly.
I believe everyone using 'C' is using CCS's PCM compiler (www.ccsinfo.com).
The syntax and functions should be the same as most compilers, however it
has some builtin functions that handle specific PIC tasks. For example
there is builtin getchar() and printf(), portb_pullups(), etc...

If you have any questions on specific CCS 'C' functions, I would be more
then happy to e-mail you the manual section.

Have phun!

-James Jefferson KB0THN
jjeffers@deskmedia.com

http://www.deskmedia.com/~jjeffers/

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

269. [picsig] Status of PIC development

From: KB8QIR@aol.com
Date: Tue, 30 Mar 1999 17:17:24 EST
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-13226-1999.03.30-16.42.44--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hello,

I wasn't able to get one of the first 50 pic encoders sold from TAPR however
I am very interested in the development of them and was looking on the TAPR
web site for any code information on them as I have been able to build one
using the PDF documents from the pic FTP area but don't have the pic program
to load as I stink at programming and was wondering if could get this from the
developers or is it not for distribution yet or ever?

73, Jacob Tennant

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

270. [picsig] Re: Status of PIC development

From: Steve Dimse <sdimse@netrox.net>
Date: Tue, 30 Mar 1999 22:17:37 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-13283-1999.03.30-21.20.43--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On 3/30/99 5:17 PM KB8QIR@aol.com (KB8QIR@aol.com) wrote:

>   I wasn't able to get one of the first 50 pic encoders sold from TAPR however
>I am very interested in the development of them and was looking on the TAPR
>web site for any code information on them as I have been able to build one
>using the PDF documents from the pic FTP area but don't have the pic program
>to load as I stink at programming and was wondering if could get this from
>the
>developers or is it not for distribution yet or ever?
>
Look on the FTP site:

ftp://ftp.tapr.org/picsig/software/

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

271. [picsig] PIC software

From: KB8QIR@aol.com
Date: Wed, 31 Mar 1999 13:25:46 EST
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-13371-1999.03.31-12.28.54--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Thanks Steve for the directions to the PIC-E software and I also recieved a
offer to purchase a unassembled PIC-E also which I hope to get in a few weeks.

73 Jacob Tennant KB8QIR

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

272. [picsig] PIC-E Kit Update

From: "Greg Jones, WD5IVD" <wd5ivd@tapr.org>
Date: Wed, 31 Mar 1999 13:34:18 -0600
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-13379-1999.03.31-13.34.26--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

March 31st, 1999

The PIC-E Evaluation has come to an end. The PIC-E development team has
finalized the minor changes to the kit based on the eval input and we are
scheduling the final version of the PIC-E to be shipping around the time of
the Dayton HamVention (we plan to have units at Dayton as well).

The TAPR Office is now taking orders on this final version of the PIC-E kit.

Full details are on http://www.tapr.org/tapr/html/Fpice.html

The web page will be updated later this week detailing what minor changes
to the final unit are being made.

You can get your name at the first of the list by ordering before Dayton.

Thanks to those that participated in the Evaluation process.

Cheers - Greg Jones, WD5IVD

Greg Jones, WD5IVD
        President TAPR (http://www.tapr.org)
        PhD Candidate, Instructional Technology, UT Austin

email: wd5ivd@tapr.org
web: http://www.tapr.org/~wd5ivd

Experience is what you get when you were expecting something else.

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

273. [picsig] Newbie on Board

From: "David Dunster" <ve5dgd@rac.ca>
Date: Wed, 31 Mar 1999 21:18:15 -0600
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-13435-1999.03.31-21.27.43--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Greetings All

Just joined the sig and want to see what this PIC is all about. Main area of
interest is in APRS setting up a tracker.

Don't have a PIC yet but would have ordered one had my van not decided it
needed a mechanic!

I have downloaded the .pdf file from Tapr and await further reading in this
sig.

73s,

signed,
David Dunster, VE5DGD
Regina, SK
APRS+SA Docs: http://www.peel.com/aprs-sa/ve5dgd.htm

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

April 1999

Original source file: picsig.9904
Source: http://ftp.tapr.org/tapr_history/SIG_Archives/picsig/mail_archive/picsig.9904

1. [picsig] Re: Newbie on Board

From: "DUSTY RHODES" <dustman_5@hotmail.com>
Date: Thu, 01 Apr 1999 06:30:51 PST
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-13503-1999.04.01-08.34.01--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi David:

I have been monitoring the SIG for a month now and have yet to see anything reguarding the Track Box, but the conversation is interesting.

Good luck 73S Dusty KB7ULT

>From: "David Dunster" <ve5dgd@rac.ca>
>Reply-To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
>To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
>Subject: [picsig] Newbie on Board
>Date: Wed, 31 Mar 1999 21:18:15 -0600
>
>Greetings All
>
>Just joined the sig and want to see what this PIC is all about. Main area of
>interest is in APRS setting up a tracker.
>
>Don't have a PIC yet but would have ordered one had my van not decided it
>needed a mechanic!
>
>I have downloaded the .pdf file from Tapr and await further reading in this
>sig.
>
>73s,
>
>signed,
>David Dunster, VE5DGD
>Regina, SK
>APRS+SA Docs: http://www.peel.com/aprs-sa/ve5dgd.htm
>
>
>
>
>---
>You are currently subscribed to picsig as: dustman_5@hotmail.com
>To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org
>

Get Your Private, Free Email at http://www.hotmail.com

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

2. [picsig] Re: Newbie on Board

From: "Jim K." <jimbok@i-2000.com>
Date: Thu, 1 Apr 1999 23:14:46 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-13566-1999.04.01-22.15.09--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi David:

I have been reading the sig for a few months, and the main topic of discussion in the Pic-E, I have been playing around with the idea of using a pic's for my track box for 2 years now. I have several working units, and they are great. At this time I only have photos of my first "Track Box" on line, but I will take photos of my current version and post them soon.
http://www.i2.i-2000.com/~jimbok/ham/jkaprs/

My new box changes the transmit rate from 1 sec to 1hr depending on your
speed (gets your speed from the GPS), and as soon as I get some free time I
will make it live. If you want a copy of my code let me know and I'll send
it to you. Pic's are sooooo easy to program, you will love it!

Jim - KB2UOI

 Jim Krutzler A.K.A. "Jimbo K"

 http://www.i2.i-2000.com/~jimbok   mailto:jimbok@i-2000.com
 http://vger.rutgers.edu/~jimbok   mailto:kb2uoi@amsat.org

 Ham Radio call: KB2UOI
 Phone/Fax 732.248.4479

 If at first you don't succeed, skydiving is not for you.
-----Original Message-----
From: DUSTY RHODES <dustman_5@hotmail.com>
To: TAPR PIC Development Special Interest Group <picsig@lists.tapr.org>
Date: Thursday, April 01, 1999 9:31 AM
Subject: [picsig] Re: Newbie on Board

>Hi David:
>
> I have been monitoring the SIG for a month now and have yet to see
>anything reguarding the Track Box, but the conversation is interesting.
>
>   Good luck 73S Dusty KB7ULT
>
>
>>From: "David Dunster" <ve5dgd@rac.ca>
>>Reply-To: "TAPR PIC Development Special Interest Group"
><picsig@lists.tapr.org>
>>To: "TAPR PIC Development Special Interest Group"
><picsig@lists.tapr.org>
>>Subject: [picsig] Newbie on Board
>>Date: Wed, 31 Mar 1999 21:18:15 -0600
>>
>>Greetings All
>>
>>Just joined the sig and want to see what this PIC is all about. Main
>area of
>>interest is in APRS setting up a tracker.
>>
>>Don't have a PIC yet but would have ordered one had my van not decided
>it
>>needed a mechanic!
>>
>>I have downloaded the .pdf file from Tapr and await further reading in
>this
>>sig.
>>
>>73s,
>>
>>signed,
>>David Dunster, VE5DGD
>>Regina, SK
>>APRS+SA Docs: http://www.peel.com/aprs-sa/ve5dgd.htm
>>
>>
>>
>>
>>---
>>You are currently subscribed to picsig as: dustman_5@hotmail.com
>>To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org
>>
>
>Get Your Private, Free Email at http://www.hotmail.com
>
>---
>You are currently subscribed to picsig as: kb2uoi@amsat.org
>To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org
>

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

3. [picsig] Re: PIC-E Kit Update

From: Jeff King <jeff@aerodata.net>
Date: Fri, 02 Apr 1999 16:33:29 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-13651-1999.04.02-15.34.28--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

"Greg Jones, WD5IVD" wrote:

> The web page will be updated later this week detailing what minor changes
> to the final unit are being made.

What exact minor changes were made? Didn't see it on the web page yet.
Would like to blue wire my eval board if I decide to keep it.

> Thanks to those that participated in the Evaluation process.

Sure. Any chance of making a blank PCB available to the evaluators so
we don't have to spend another $60?

-Jeff

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

4. [picsig] Re: PIC-E Kit Update

From: "Greg Jones, WD5IVD" <wd5ivd@tapr.org>
Date: Fri, 2 Apr 1999 22:31:55 -0600
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-13700-1999.04.02-22.37.02--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi Jeff.

I haven't gotten the list from the development group yet. As soon as I do,
I'll get them posted.

As to the PCB being made available to developers, let's see where we are
when we get the kits going and please ask again then. We can make a
decision then based on better information.

Cheers - Greg

>"Greg Jones, WD5IVD" wrote:
>
>> The web page will be updated later this week detailing what minor changes
>> to the final unit are being made.
>
>What exact minor changes were made? Didn't see it on the web page yet.
>Would like to blue wire my eval board if I decide to keep it.
>
>> Thanks to those that participated in the Evaluation process.
>
>Sure. Any chance of making a blank PCB available to the evaluators so
>we don't have to spend another $60?
>
>-Jeff
>

Greg Jones, WD5IVD   Austin, Texas
wd5ivd@tapr.org   http://www.tapr.org/~wd5ivd

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

5. [picsig] Pic-E PCB less parts

From: "David Dunster" <ve5dgd@rac.ca>
Date: Sat, 3 Apr 1999 07:29:36 -0600
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-13752-1999.04.03-07.34.43--lyris.picsig#tapr.org@lists.tapr.org>

Rendered body type: text/plain

Anyone know if the pcb for the Pic-E can be purchased without the parts?

signed,
David Dunster, VE5DGD
ARES Regina
SAR Regina
APRS+SA Docs: http://www.peel.com/aprs-sa/ve5dgd.htm

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

6. [picsig] ucLinux Radio router

From: "Mark Grennan" <mgrennan@fleming.com>
Date: Wed, 7 Apr 1999 15:16:30
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-14565-1999.04.07-15.19.47--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

What if you could build a palm like computer with 2m packet connection
that runs Linux? What if it was being designed by hams? What if it
was all "Open Hardware".

Check out this page http://ryeham.ee.ryerson.ca/uClinux/simm/

Now consider a Pic-E on a simm.

I dare anyone to put a 2m transmiter trans on a simm.

Please.

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

7. [picsig] testing plsdelete

From: "Steven R. Bible" <srbible@gate.net>
Date: Sun, 11 Apr 1999 20:07:34 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-15383-1999.04.11-19.10.15--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Pleasedelete.

- Steve, N7HPR
  n7hpr@tapr.org
  n7hpr@amsat.org

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

8. [picsig] test

From: "Wes Johnston" <kd4rdb@bellsouth.net>
Date: Tue, 13 Apr 1999 00:17:36 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-15665-1999.04.12-23.20.06--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

test
Wes - NOTE NEW EMAIL ADDRESS
  kd4rdb@qsl.net
  http://www.qsl.net/kd4rdb

Where am I?
   http://map.aprs.net/kd4rdb-9
   http://map.aprs.net/kd4rdb-10

9. [picsig] New Version of GPS-E-2

From: John Hansen <hansen@fredonia.edu>
Date: Tue, 13 Apr 1999 22:10:19 -0400

To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-15836-1999.04.13-21.13.49--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi Folks:

A new version of GPS-E-2 (called GPS-E-2a) has been uploaded to the upload directory and should be moved soon to the picsig software directory. It fixes some significant bugs, including the bug that was sometimes causing the emergency code to be set off. If you are using the previous version of this code, please replace it with the new stuff.

I'm also working on improving the timing of the packets. The MPLAB simulator indicates that the timing of the bits is very close to the theoretical value, however, one user has reported 5-20% dropped packets. I'm wondering how accurate the MPLAB simulator stopwatch is. Since it works by counting instruction clock cycles, I expected it to be as accurate at the crystal resonator that was being used as the PIC clock. Now I don't know for sure. Unfortunately measuring multiple pulse widths precisely enough seems to be beyond the capabilities of my older analog scope. If any of you have access to equipment that can measure the bits transmitted from pin 11 of the PIC in the PIC-E when it is running my code, I'd be very interested in the results.

73, John W2FS

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

10. [picsig] Re: New Version of GPS-E-2

From: "Brian B. Riley" <brianbr@macconnect.com>
Date: Tue, 13 Apr 1999 22:33:27 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-15839-1999.04.13-21.37.19--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On 4/13/99 10:10 PM, John Hansen (hansen@fredonia.edu) passed this wisdom:

>> I'm also working on improving the timing of the packets. The MPLAB
>simulator indicates that the timing of the bits is very close to the
>theoretical value, however, one user has reported 5-20% dropped packets.
>I'm wondering how accurate the MPLAB simulator stopwatch is. Since it
>works by counting instruction clock cycles, I expected it to be as accurate
>at the crystal resonator that was being used as the PIC clock. Now I don't
>know for sure. Unfortunately measuring multiple pulse widths precisely
>enough seems to be beyond the capabilities of my older analog scope. If
>any of you have access to equipment that can measure the bits transmitted
>from pin 11 of the PIC in the PIC-E when it is running my code, I'd be very
>interested in the results.

I am new to the SIG and am awaiting my PIC-E from TAPR early next month ... the above leads me to ask about the thermal stability of the PIC-E resonators. maybe anyone able to do the measurements might try getting a 'room temp' baseline figure and then do a makeshift 'oven' with some lightbulbs and or some chill packs or something at get figures for say 120F 90F 40F 20F 0F ... I foresee these PIC-Es being used in a wide variety of environs and it would be nice to have an idea at what temps they will go flooey!

73 de brian, ka2bqe

Brian B. Riley --> http://members.macconnect.com/~brianbr
For PGP Keys <mailto:brianbr@wulfden.org?subject=Get%20PGP%20Key>

"I tried sniffing Coke once, but the ice cubes got stuck in my nose."

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

11. [picsig] MX614 Group Purchase?

From: James Jefferson <jjeffers@deskmedia.com>
Date: Wed, 21 Apr 1999 16:48:48 -0500

To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-17211-1999.04.21-16.52.14--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi guys, I did a little looking on getting a small quantity of MX614 in the
PDIP package:

Mx-Com:
$250 minimum order

25:     $5.04
50:     $4.53
100:    $3.97

Component Distributors, Inc:
No minimum order

25:     $5.60
50:     $5.04

If we get enough interest, I would be willing to organize a group order.
E-mail me dirrectly with the quantity you want. Lets say a single chip
shipped within the US for $7. If there is interest I could prolly add an
PIC16F84-10 for $5.

What do you think?

-James Jefferson KB0THN
jjeffers@deskmedia.com
http://www.deskmedia.com/~jjeffers/

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

12. [picsig] Re: MX614 Group Purchase?

From: "Brian B. Riley" <brianbr@macconnect.com>
Date: Wed, 21 Apr 1999 20:29:29 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-17234-1999.04.21-19.33.26--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On 4/21/99 5:48 PM, James Jefferson (jjeffers@deskmedia.com) passed this
wisdom:

>Hi guys, I did a little looking on getting a small quantity of MX614 in the
>PDIP package:

 I am relatively new to the list ... atthe risk of asking a dumb
question, what _is_ a MX614 ? why would I want to buy one?

Brian B. Riley --> http://members.macconnect.com/~brianbr
  For PGP Keys <mailto:brianbr@wulfden.org?subject=Get%20PGP%20Key>

  "To teach superstitions as truth is a most terrible thing."

  "Reserve your right to think, for even to think wrongly is better than
not
   to think at all." Hypatia - Greek woman, mathematician and astronomer

---
You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

13. [picsig] Re: MX614 Group Purchase?

From: James Jefferson <jjeffers@deskmedia.com>
Date: Wed, 21 Apr 1999 20:08:13 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-17238-1999.04.21-20.11.34--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> I am relatively new to the list ... atthe risk of asking a dumb
>question, what _is_ a MX614 ? why would I want to buy one?

Brain, not a dumb question... The MX614 is a 1200 baud modem chip that
can be easily interface with a PIC or other small uC. TAPR is using the

MX614 in the PIC-E project. There are many people that haven't been able
to get PIC-E and there are people that are experimenting in other dirrections
then the APRS PIC-E. If you are just going to get a PIC-E kit then you won't
need one. =)

-James Jefferson KB0THN
jjeffers@deskmedia.com
http://www.deskmedia.com/~jjeffers/

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

14. [picsig] Re: MX614 Group Purchase?

From: Darryl Smith <vk2tds@ozemail.com.au>
Date: Thu, 22 Apr 1999 18:53:19 +1000
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-17287-1999.04.22-06.45.46--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

One question with the MX-614... Does it also do PSK? I am wanting to
build a 1200 bps BAYCOM style PSK modem for HF work for friends....

Darryl VK2TDS

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

15. [picsig] Transmiter for a tracker

From: Mark Grennan <mgrennan@mail.fleming.com>
Date: Thu, 22 Apr 1999 09:47:55 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-17306-1999.04.22-09.51.55--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I'd like to build a tracker with it's own transmiter.

Does anyone have a design for a fixed (144.390) 2m fm trans?

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

16. [picsig] Re: Transmiter for a tracker

From: "Wes Johnston" <kd4rdb@bellsouth.net>
Date: Thu, 22 Apr 1999 17:34:00 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-17352-1999.04.22-16.36.45--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Kantronics has one for $89 as a kit....
Agrello has one that is programmable (short macros to CW id and change freq
, etc) for $99 or so complete.

Wes - NOTE NEW EMAIL ADDRESS
  kd4rdb@qsl.net
  http://www.qsl.net/kd4rdb

Where am I?
   http://map.aprs.net/kd4rdb-9
   http://map.aprs.net/kd4rdb-10

There is a fine line between "hobby" and "mental illness."
-----Original Message-----
From: Mark Grennan <mgrennan@mail.fleming.com>

To: TAPR PIC Development Special Interest Group <picsig@lists.tapr.org>
Date: Thursday, April 22, 1999 10:48 AM
Subject: [picsig] Transmiter for a tracker

>I'd like to build a tracker with it's own transmiter.
>
>Does anyone have a design for a fixed (144.390) 2m fm trans?
>
>
>
>
>
>---
>You are currently subscribed to picsig as: kd4rdb@bellsouth.net
>To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org
>
>

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

17. [picsig] Re: Transmiter for a tracker

From: "Steven R. Bible" <srbible@gate.net>
Date: Thu, 22 Apr 1999 17:43:12 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-17359-1999.04.22-16.46.39--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 05:34 PM 4/22/99 -0400, you wrote:
>Kantronics has one for $89 as a kit....
>Agrello has one that is programmable (short macros to CW id and change freq
>, etc) for $99 or so complete.

I looked at the Agrello transmitter. If you follow it to the new seller,
it's way much more in price, closer to $389.00. See

    http://www.swssec.com/agrelo.html

- Steve, N7HPR
  n7hpr@tapr.org
  n7hpr@amsat.org

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

18. [picsig] PIC-E kit question

From: Mike Berg <mikeberg@midstate.tds.net>
Date: Fri, 23 Apr 1999 21:22:02 -0700
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-17496-1999.04.23-21.31.46--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Recently put 3 PIC-E kits on order and was wondering if they will
include a case?
73 Mike N0QBH

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

19. [picsig] Re: PIC-E kit question

From: James Jefferson <jjeffers@deskmedia.com>
Date: Fri, 23 Apr 1999 22:28:45 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-17503-1999.04.23-22.32.06--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>Recently put 3 PIC-E kits on order and was wondering if they will
>include a case?

No.

-James Jefferson KB0THN
jjeffers@deskmedia.com
http://www.deskmedia.com/~jjeffers/

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

20. [picsig] Re: PIC-E kit question

From: Steve Dimse K4HG <k4hg@tapr.org>
Date: Fri, 23 Apr 1999 23:25:21 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-17504-1999.04.23-22.33.01--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On 4/24/99 12:22 AM Mike Berg (mikeberg@midstate.tds.net) wrote:

>Recently put 3 PIC-E kits on order and was wondering if they will
>include a case?

No case, but it is sized to fit a standard Radio Shack box. It takes a
little patience to cut the openings, but the result is worth it.

Steve K4HG

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21. [picsig] Re: PIC-E kit question

From: James Jefferson <jjeffers@deskmedia.com>
Date: Fri, 23 Apr 1999 22:34:54 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-17508-1999.04.23-22.38.27--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>No case, but it is sized to fit a standard Radio Shack box. It takes a
>little patience to cut the openings, but the result is worth it.

Which box?

-James Jefferson KB0THN
jjeffers@deskmedia.com
http://www.deskmedia.com/~jjeffers/

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22. [picsig] Trackbox

From: "DUSTY RHODES" <dustman_5@hotmail.com>
Date: Fri, 23 Apr 1999 22:16:19 PDT
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-17522-1999.04.24-00.20.29--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi All:

Has anyone heard anything happening with the trackbox........?

73s Dusty KB7ULT

_____
Get Free Email and Do More On The Web. Visit http://www.msn.com

---
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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

23. [picsig] Re: Transmiter for a tracker

From: Jeff Heidbrier <soliton@flash.net>
Date: Sat, 24 Apr 1999 06:21:09 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-17540-1999.04.24-06.27.49--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I have had bad luck with some Kantronics stuff, parts falling
 out of new tnc's etc. Beware.

        Jeff

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

24. [picsig] Re: PIC-E kit question

From: Steve Dimse K4HG <k4hg@tapr.org>
Date: Sat, 24 Apr 1999 08:13:19 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-17542-1999.04.24-07.18.54--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On 4/23/99 11:34 PM James Jefferson (jjeffers@deskmedia.com) wrote:

>>No case, but it is sized to fit a standard Radio Shack box. It takes a
>>little patience to cut the openings, but the result is worth it.
>
>Which box?
>
Don't know the part number, maybe Steve B. does. It is a box the size of
the Pic-E, the holes in the board match the nounting posts, and includes
a 9 volt battery compartment.

Steve K4HG

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

25. [picsig] Re: Trackbox

From: Steve Dimse K4HG <k4hg@tapr.org>
Date: Sat, 24 Apr 1999 08:14:37 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-17543-1999.04.24-07.20.09--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On 4/24/99 1:16 AM DUSTY RHODES (dustman_5@hotmail.com) wrote:

>Hi All:
>
>
>Has anyone heard anything happening with the trackbox........?
>
There are rumors of a new trakbox getting developed, but as far as I know
there are no plans for the original Trackbox...

Steve K4HG

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26. [picsig] PIC-E RS Enclosure [was: PIC-E kit question]

From: "Steven R. Bible" <srbible@gate.net>
Date: Sat, 24 Apr 1999 09:44:03 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-17546-1999.04.24-08.47.14--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 08:13 AM 4/24/99 -0400, you wrote:
>On 4/23/99 11:34 PM James Jefferson (jjeffers@deskmedia.com) wrote:
>
>>>No case, but it is sized to fit a standard Radio Shack box. It takes a
>>>little patience to cut the openings, but the result is worth it.
>>
>>Which box?
>>
>Don't know the part number, maybe Steve B. does. It is a box the size of
>the Pic-E, the holes in the board match the nounting posts, and includes

>a 9 volt battery compartment.

It is a Radio Shack project case, part number 270-213. This model is
available at Radio Shack stores.

If you look at the PIC-E, you will see four mounting holes at the corners.
Near JP4, the programming jumper, there's a fifth hole. The Radio SHack
box uses this middle hole and the opposite ends two. Fits rather nicely.

What you have to do is cut the ends of the enclosure to allow all the
connectors to poke out and entend the LEDs and Switches as you desire.

I have pictures to illustrate the PIC-E in the Radio Shack box that I'll
post later today.

- Steve, N7HPR
  n7hpr@tapr.org
  n7hpr@amsat.org

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

27. [picsig] Re: PIC-E RS Enclosure [was: PIC-E kit question]

From: John Hansen <john@hansen.net>
Date: Sat, 24 Apr 1999 10:07:12 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-17547-1999.04.24-09.11.58--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 09:44 AM 4/24/99 -0400, you wrote:
>It is a Radio Shack project case, part number 270-213. This model is
>available at Radio Shack stores.
>
>If you look at the PIC-E, you will see four mounting holes at the corners.
>Near JP4, the programming jumper, there's a fifth hole. The Radio SHack
>box uses this middle hole and the opposite ends two. Fits rather nicely.
>
>What you have to do is cut the ends of the enclosure to allow all the
>connectors to poke out and entend the LEDs and Switches as you desire.
>
>I have pictures to illustrate the PIC-E in the Radio Shack box that I'll
>post later today.
>
>
>
>- Steve, N7HPR
> n7hpr@tapr.org
> n7hpr@amsat.org
>

Some time ago there was a discussion of creating a template for cutting
this box. I thought (though perhaps I was remembering incorrectly) that
John K. said he could do it. I'm wondering if anything ever became of that?

John, W2FS

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28. [picsig] New PIC-E schematic?

From: Jeff King <jeff@aerodata.net>
Date: Sat, 24 Apr 1999 12:21:56 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-17550-1999.04.24-11.25.47--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Around April 1st (maybe it was April fools?) Greg said the revised (production)

PIC-E schematic would be posted. As of a few days ago, the old one is still on
the site. The schematic was to incorporate some or all of the changes suggested
on
the SIG over the last few months.

Any idea when it will be posted? As I said in a previous post, I'd like to
modify
(bluewire) my beta PIC-E target to match this one.

Sorry to be a pest, but I think this is a legitimate inquiry.

-Jeff

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29. [picsig] Re: PIC-E RS Enclosure [was: PIC-E kit question]

From: Jeff King <jeff@aerodata.net>
Date: Sat, 24 Apr 1999 12:23:57 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-17553-1999.04.24-11.27.50--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

"Steven R. Bible" wrote:

> It is a Radio Shack project case, part number 270-213. This model is
> available at Radio Shack stores.

To save a stop at Radio Shack, will this box fit the old PIC-E, the new
PIC-E or either?

Thanks

-Jeff

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

30. [picsig] Re: PIC-E kit question

From: Alan Crosswell <alan@columbia.edu>
Date: Sat, 24 Apr 99 12:47:40 EDT
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-17560-1999.04.24-11.51.46--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>No case, but it is sized to fit a standard Radio Shack box. It takes a

RS Part number by any chance?
/a

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

31. [picsig] Re: PIC-E RS Enclosure [was: PIC-E kit question]

From: "Brian B. Riley" <brianbr@macconnect.com>
Date: Sat, 24 Apr 1999 15:20:04 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-17585-1999.04.24-14.24.12--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On 4/24/99 9:44 AM, Steven R. Bible (srbible@gate.net) passed this
wisdom:

>What you have to do is cut the ends of the enclosure to allow all the
>connectors to poke out and entend the LEDs and Switches as you desire.
>
>I have pictures to illustrate the PIC-E in the Radio Shack box that I'll
>post later today.

 ... any chnace you could make a template for cutting the holes?

Brian B. Riley --> http://members.macconnect.com/~brianbr
   For PGP Keys <mailto:brianbr@wulfden.org?subject=Get%20PGP%20Key>

  "If this is the first day of the rest of my life, I am in DEEP trouble!"

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

32. [picsig] Re: PIC-E RS Enclosure

From: "Steven R. Bible" <srbible@gate.net>
Date: Sat, 24 Apr 1999 20:02:54 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-17612-1999.04.24-19.06.10--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>>I have pictures to illustrate the PIC-E in the Radio Shack box that I'll
>>post later today.
>
> ... any chnace you could make a template for cutting the holes?

I've cobbled together a web page showing the Radio Shack project case and
PIC-E. I've included a template in PDF format. The template may or may
not work as it may not be to scale. I've included a reference 1" mark so
you can test before using.

Comments are welcome.

- Steve, N7HPR
  n7hpr@tapr.org
  n7hpr@amsat.org

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

33. [picsig] Re: PIC-E RS Enclosure [was: PIC-E kit question]

From: "Steven R. Bible" <srbible@gate.net>
Date: Sat, 24 Apr 1999 20:03:19 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-17613-1999.04.24-19.06.34--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 12:23 PM 4/24/99 -0400, you wrote:
>"Steven R. Bible" wrote:
>
>> It is a Radio Shack project case, part number 270-213. This model is
>> available at Radio Shack stores.
>
>To save a stop at Radio Shack, will this box fit the old PIC-E, the new
>PIC-E or either?

Both.

- Steve, N7HPR
  n7hpr@tapr.org
  n7hpr@amsat.org

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

34. [picsig] Latest PIC-E Schematic posted

From: "Steven R. Bible" <srbible@gate.net>
Date: Sat, 24 Apr 1999 20:20:51 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-17614-1999.04.24-19.24.08--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I've uploaded the latest PIC-E schematic and PCB layout to the ftp site

    ftp://ftp/tapr/org/picsig/docs/

You'll see them labeled as "Rev 2" and the eval board as "eval."

I'll work on a field change paper for those who would like to update their
eval board to the latest revision.

I think you'll find that there are not a lot of major changes.

Most note worthy is the change of voltage regulator to a 7805 vice 78L05.
There were more requests for this change than any other. The 7805 will
facilitate up to 1 amp of current to power external GPS receivers such as
the Tripmate and Garmin GPS-35. The 7805 is mounted on the edge of the PCB
so that a heat sink can be attached if needed. For those that want a
switching regulator, you can use the Power Trends PT5101 in place of the
7805. You can still mount a 78L05 if you desire, especially if battery
operation is needed. There are a host of better voltage regulators that
have much lower quiesent current requirements. They cost a bit more, but
perform much better.

The PCB is the same size as the eval PCB.

The mini-slide swithes will be replaced with mini-toggle switches.

- Steve, N7HPR
  n7hpr@tapr.org
  n7hpr@amsat.org

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

35. [picsig] Re: Latest PIC-E Schematic posted

From: "Ken Mirabella" <kjm@flo-bin.com>
Date: Sat, 24 Apr 1999 17:44:50 -0700
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Cc: <aprssig@lists.tapr.org>
Message-ID: <LYR6890-17620-1999.04.24-19.48.35--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Actually the ftp site is: ftp://www.tapr.org/picsig/docs/

73, Ken, KM6YH
OCRACES

----- Original Message -----
From: Steven R. Bible <srbible@gate.net>
To: TAPR PIC Development Special Interest Group <picsig@lists.tapr.org>
Sent: Saturday, April 24, 1999 5:20 PM
Subject: [picsig] Latest PIC-E Schematic posted

I've uploaded the latest PIC-E schematic and PCB layout to the ftp site

    ftp://ftp/tapr/org/picsig/docs/

You'll see them labeled as "Rev 2" and the eval board as "eval."

I'll work on a field change paper for those who would like to update their
eval board to the latest revision.

I think you'll find that there are not a lot of major changes.

Most note worthy is the change of voltage regulator to a 7805 vice 78L05.
There were more requests for this change than any other. The 7805 will
facilitate up to 1 amp of current to power external GPS receivers such as
the Tripmate and Garmin GPS-35. The 7805 is mounted on the edge of the PCB
so that a heat sink can be attached if needed. For those that want a
switching regulator, you can use the Power Trends PT5101 in place of the
7805. You can still mount a 78L05 if you desire, especially if battery
operation is needed. There are a host of better voltage regulators that
have much lower quiesent current requirements. They cost a bit more, but
perform much better.

The PCB is the same size as the eval PCB.

The mini-slide swithes will be replaced with mini-toggle switches.

- Steve, N7HPR

```
  n7hpr@tapr.org
  n7hpr@amsat.org


---
You are currently subscribed to picsig as: kjm@flo-bin.com
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org




---
You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org
```

36. [picsig] Re: Latest PIC-E Schematic posted

```
From: "Steven R. Bible" <srbible@gate.net>
Date: Sat, 24 Apr 1999 21:29:25 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-17621-1999.04.24-20.32.36--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain
```

Duooooooooh!!

Thanks, Steve

```
At 05:44 PM 4/24/99 -0700, you wrote:
>Actually the ftp site is:  ftp://www.tapr.org/picsig/docs/
>
>73, Ken, KM6YH
>OCRACES
>
>----- Original Message -----
>From: Steven R. Bible <srbible@gate.net>
>To: TAPR PIC Development Special Interest Group <picsig@lists.tapr.org>
>Sent: Saturday, April 24, 1999 5:20 PM
>Subject: [picsig] Latest PIC-E Schematic posted
>
>
>I've uploaded the latest PIC-E schematic and PCB layout to the ftp site
>
>    ftp://ftp/tapr/org/picsig/docs/
>
>You'll see them labeled as "Rev 2" and the eval board as "eval."
>
>I'll work on a field change paper for those who would like to update their
>eval board to the latest revision.
>
>I think you'll find that there are not a lot of major changes.
>
>Most note worthy is the change of voltage regulator to a 7805 vice 78L05.
>There were more requests for this change than any other.  The 7805 will
>facilitate up to 1 amp of current to power external GPS receivers such as
>the Tripmate and Garmin GPS-35.  The 7805 is mounted on the edge of the PCB
>so that a heat sink can be attached if needed.  For those that want a
>switching regulator, you can use the Power Trends PT5101 in place of the
>7805.  You can still mount a 78L05 if you desire, especially if battery
>operation is needed.  There are a host of better voltage regulators that
>have much lower quiesent current requirements.  They cost a bit more, but
>perform much better.
>
>The PCB is the same size as the eval PCB.
>
>The mini-slide swithes will be replaced with mini-toggle switches.
>
>
>- Steve, N7HPR
>  n7hpr@tapr.org
>  n7hpr@amsat.org
>
>
>---
>You are currently subscribed to picsig as: kjm@flo-bin.com
>To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org
>
>
>
```

>
>
>---
>You are currently subscribed to picsig as: srbible@gate.net
>To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org
>
>
>
- Steve, N7HPR
  n7hpr@tapr.org
  n7hpr@amsat.org

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

37. [picsig] MX-614 available from TAPR Office

From: "Greg Jones, WD5IVD" <wd5ivd@tapr.org>
Date: Sun, 25 Apr 1999 08:21:00 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Cc: " PSR "<psr@tapr.org>
Message-ID: <LYR6890-17664-1999.04.25-08.32.22--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

James posted a message to the PICSIG about doing a group purchase on the
MX-614 modem chip the other day. Since we are purchasing these for the
PIC-E and probably some future kits as well, TAPR has decided to make these
available to the amateur radio community. We spoke to James and he thought
this was a fine idea.

Normally TAPR doesn't sale individual active parts like this, since it is
impossible to compete with DigiKey or Mouser; however, since the minimum
order from the current distributors is pretty high, we thought we should
give it a try to help out those wanting to experiment with the chip in
their projects.

We are setting the price at $4.00 per MX-614 chip, plus a $3.00 s/h fee,
which will place the chip at $7 for a qty one order. If you are a TAPR
member you get a .40 discount.

When DigiKey, Mouser, and the other main stream distributors begin to
handle this chip or if someone finds a source for amateurs to purchase the
chip for less in single qty, please let us know and we can start pointing
people to that better price bargain.

The web page is: http://www.tapr.org/tapr/html/Ffirmware.html

Cheers - Greg Jones, WD5IVD
TAPR

Greg Jones, WD5IVD   Austin, Texas
wd5ivd@tapr.org   http://www.tapr.org/~wd5ivd

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

38. [picsig] Re: MX-614 available from TAPR Office

From: John Hansen <john@hansen.net>
Date: Sun, 25 Apr 1999 10:03:59 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-17677-1999.04.25-09.10.13--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 08:21 AM 4/25/99 -0500, you wrote:
>We are setting the price at $4.00 per MX-614 chip, plus a $3.00 s/h fee,
>which will place the chip at $7 for a qty one order. If you are a TAPR
>member you get a .40 discount.

This is a real service. It might be a good idea to have some available at
Dayton. I know I could use a few.

John, W2FS

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39. [picsig] Re: PIC-E RS Enclosure [was: PIC-E kit question]

From: Richard A Hershey <kiloalphaeightdeltaechodelta@juno.com>
Date: Sun, 25 Apr 1999 11:37:14 EDT
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-17681-1999.04.25-10.47.40--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Is the web site up and if so were.

_____
You don't need to buy Internet access to use free Internet e-mail.
Get completely free e-mail from Juno at http://www.juno.com/getjuno.html
or call Juno at (800) 654-JUNO [654-5866]

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40. [picsig] Re: PIC-E RS Enclosure [was: PIC-E kit question]

From: "Steven R. Bible" <srbible@gate.net>
Date: Sun, 25 Apr 1999 12:29:42 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-17687-1999.04.25-11.34.01--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 11:37 AM 4/25/99 EDT, you wrote:
>Is the web site up and if so were.

Yep, take a look at

   http://www.tapr.org/~n7hpr/pic-e/

and follow the links.

- Steve, N7HPR
  n7hpr@tapr.org
  n7hpr@amsat.org

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

41. [picsig] PIC E Project speculation

From: "Thomas M. Schaefer" <toms@inconnect.com>
Date: Sun, 25 Apr 1999 19:00:43 -0600
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-17755-1999.04.25-20.02.31--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

While I am awaiting for the kit, I was thinking of a few things. I would
like to use the unit as a test bed for development. I have been wanting
to start programming the PIC for a while, but never had the "push". This
should take care of that for me. On to my question...

If I want to make a basic tracker, it seems to me that I should program
the PIC on the PICE to test everything, then see what components I need
for my specific application (PIC, modem chip, radio, and GPS interface).
I would then build that circuit on a seperate board with two sockets and
direct connections for the tracker interfaces. This way it seems that
trackers can be build for $20 each. Not having read the application
notes on the PIC yet (I did read the QST article though), the first
order order of business is to determine what discrete components are
required for minimal support. Am I on the right track?

One other question...Since I would like to have the PIC-E be a system in
flux, would a ZIF socket fit or make sense for the PIC? I realize that I
could just make a simple programmer with a ZIF socket, so perhaps that
is moot, but it has occurred to me.

Thanks to all for their efforts and I look forward to digging into this
thing. Now, if I could decide on which C compiler to use with it?

Tom NY4I

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42. [picsig] PIC-E Receiving

From: "Byon Garrabrant" <byon@mail.com>
Date: Sun, 25 Apr 1999 23:41:04 -0700
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Cc: Mark Grennan <mgrennan@mail.fleming.com>
Message-ID: <LYR6890-17784-1999.04.26-01.45.55--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi All,

  I spent some time working on packet receiving for the PIC-E this
weekend, and have just uploaded my current state of progress to
pktin01.zip on picsig/software. The .txt file says:

BETA PIC-E assembly routines to receive packet radio with a
sample displayer to serial at 19200 baud.

It is organized like packet.zip (which I plan to convert to pktout and
combine with pktin), with a main asm file to do the decoding, and a
sample asm file to show how to use it. The base code itself is not
limited by RAM, as it doesn't store the packet, it just hands you
each byte. The basic idea of the interface is:
 call   PacketIn_Init   ;setup the packet system
then repeatedly call:
 call   PacketIn_Update   ; receive packet
which will update flags and bytes. After each call to
PacketIn_Update, you can check the following flags:
 PacketInNewByteFlag   - will be set if a new byte of the packet
has arrived (it will be stored in packetin_byte)
 PacketInResetFlag   - will be set if the current packet should be
thrown away due to bad data or bad CRC
 PacketInDoneFlag - will be set if the current packet is complete
and valid.

Packets will not set PacketInNewByteFlag until 3 consecutive flag
chars. This helped a lot of false starts during noise. The Reset
flag should work well for my modified KISS implementation.

The Sample Program Pretty much saves the current packet in
RAM (30 bytes worth), and Dumps it to serial (@19200) when I
gets a Done Flag. It also Displays a * and clears RAM when it
gets a reset. It dumps the callsigns shifted (readable) and the data
non shifted (readable). It doesn't display the sent or calculated CRC
(anymore)

In some regards, packet decoding was easier than sending.
Expecially in regards to the bit stuffing and NRZI encoding (take a
look at how I did it. A Very Cool Table :) I see no reason why the
algorithms couldn't port to C, but the timing logic could take some
thought. Although my first implementation was with interrupt
based packet in and serial out (another cool development to do
both simulteneously!), this version uses no interrupts.

My next plan is to combine the two, and have pktin, pktout, and
pktio. My next plan will be a KISS TNC. I got a few of the Ramtron
FSRAMs, both I2C and SPI 16K. Wish me luck.

Also, I did all my development on a new breadboarded PIC-E, so I
could program easier via parallel, not swap cables to run, and never
stop my terminal program. But I did dump the code to the real PIC-
 E and test it last night. The breadboard has the RAMTron chip as
well.

Also, most of my tests involved a "null-radio cable", which means I
patched the mic line out of a beaconing TNC right into the ear jack
of the PIC-E. This gave me very high quality audio, as well as
saved my neighbors from QRM. I did have some success with
decoding over the radio, but not as well.

I consider this BETA, not becuase it isn't working properly, but
because I expect to make inprovments and want people to plan to
get the newer code someday!

I'll look forward to comments and suggestions of improvments.

Byon
(So many PIC projects, so little time!!!)

_____
Byon Garrabrant N6BG byon@mail.com

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43. [picsig] Re: PIC-E Receiving

From: Alan Crosswell <alan@columbia.edu>
Date: Mon, 26 Apr 99 10:29:26 EDT
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-17812-1999.04.26-09.33.37--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I noticed in the mx-614 data sheet that you can let the mx-614 time the
data and read it a byte at a time instead of reading each bit. Have you
looked at this mode?

Regarding kiss: I think you should be able to pass the received bits
back without buffering. Just send the kiss flags, data as received, and
then end flags. The kiss drivers on the host should cope with any bad
data by checking the crc.

73 de Alan N2YGK

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44. [picsig] Re: PIC-E Receiving

From: Jeff King <jeff@aerodata.net>
Date: Mon, 26 Apr 1999 12:04:12 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-17821-1999.04.26-11.07.51--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Alan Crosswell wrote:

> I noticed in the mx-614 data sheet that you can let the mx-614 time the
> data and read it a byte at a time instead of reading each bit. Have you
> looked at this mode?

That is a 8 bit buffer and it expects a start and stop bit (i.e. a UART
protocol).
So this wouldn't work as is.

However, someone else on here suggested using the TX timing mode, which
is only one or two bits deep. This would remove the timing issues with regards
to transmit.

-Jeff

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45. [picsig] Re: PIC-E Receiving

From: "Byon Garrabrant" <byon@mail.com>
Date: Mon, 26 Apr 1999 09:23:06 -0700
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-17823-1999.04.26-11.27.56--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On 26 Apr 99, at 10:29, Alan Crosswell wrote:

> I noticed in the mx-614 data sheet that you can let the mx-614 time the
> data and read it a byte at a time instead of reading each bit. Have you
> looked at this mode?

I have not looked into this mode yet, but as Jeff K said, it will only

help us for transmitting, which is much easier as far as timing
goes. I will look into it.

> Regarding kiss: I think you should be able to pass the received bits
> back without buffering. Just send the kiss flags, data as received, and
> then end flags. The kiss drivers on the host should cope with any bad
> data by checking the crc.

The current KISS protocol does not send the CRC. The CRC must
be generated and checked in the modem, but not sent to and from
the host.

Byon

_____
 Byon Garrabrant N6BG byon@mail.com

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May 1999

Original source file: picsig.9905
Source: http://ftp.tapr.org/tapr_history/SIG_Archives/picsig/mail_archive/picsig.9905

1. [picsig] Re: PIC-E Receiving

From: "Wes Johnston" <kd4rdb@bellsouth.net>
Date: Mon, 3 May 1999 02:03:19 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-18858-1999.05.03-01.06.15--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I know there was(is) a memory problem with RX'ing a whole packet... ie 128 , 256, or better still 1024 bytes... but can the '84 hold the path and 32 bytes? The application is to RX DGPS data at 1200 baud, and passing to the GPS. Would it even HAVE to hold the packet until valid check sum could be calc'ed? I mean if the packet was damaged, wouldn't the GPS just reject it? Could the data just be sent out byte by byte as recieved?

Yes, i know all about how we don't want DGPS on the arps freq... I'm Thinking of a DGPS on demand on another simplex freq. Someone hiking would punch up a dtmf code and the DGPS data would come back at them for 20 or 30 seconds, then shut down.

Wes - kd4rdb@qsl.net
http://www.qsl.net/kd4rdb

Where am I?
http://map.aprs.net/kd4rdb-9
http://map.aprs.net/kd4rdb-10

CW - the code that stops up your node.
-----Original Message-----
From: Byon Garrabrant <byon@mail.com>
To: TAPR PIC Development Special Interest Group <picsig@lists.tapr.org>
Cc: Mark Grennan <mgrennan@mail.fleming.com>
Date: Monday, April 26, 1999 2:43 AM
Subject: [picsig] PIC-E Receiving

Hi All,

I spent some time working on packet receiving for the PIC-E this weekend, and have just uploaded my current state of progress to pktin01.zip on picsig/software. The .txt file says:

BETA PIC-E assembly routines to receive packet radio with a sample displayer to serial at 19200 baud.

It is organized like packet.zip (which I plan to convert to pktout and combine with pktin), with a main asm file to do the decoding, and a sample asm file to show how to use it. The base code itself is not limited by RAM, as it doesn't store the packet, it just hands you each byte. The basic idea of the interface is:
call PacketIn_Init ;setup the packet system
then repeatedly call:
call PacketIn_Update ; receive packet
which will update flags and bytes. After each call to PacketIn_Update, you can check the following flags:
PacketInNewByteFlag - will be set if a new byte of the packet has arrived (it will be stored in packetin_byte)
PacketInResetFlag - will be set if the current packet should be thrown away due to bad data or bad CRC
PacketInDoneFlag - will be set if the current packet is complete and valid.

Packets will not set PacketInNewByteFlag until 3 consecutive flag chars. This helped a lot of false starts during noise. The Reset flag should work well for my modified KISS implementation.

The Sample Program Pretty much saves the current packet in RAM (30 bytes worth), and Dumps it to serial (@19200) when I gets a Done Flag. It also Displays a * and clears RAM when it gets a reset. It dumps the callsigns shifted (readable) and the data non shifted (readable). It doesn't display the sent or calculated CRC (anymore)

In some regards, packet decoding was easier than sending.

Expecially in regards to the bit stuffing and NRZI encoding (take a look at how I did it. A Very Cool Table :) I see no reason why the algorithms couldn't port to C, but the timing logic could take some thought. Although my first implementation was with interrupt based packet in and serial out (another cool development to do both simulteneously!), this version uses no interrupts.

My next plan is to combine the two, and have pktin, pktout, and pktio. My next plan will be a KISS TNC. I got a few of the Ramtron FSRAMs, both I2C and SPI 16K. Wish me luck.

Also, I did all my development on a new breadboarded PIC-E, so I could program easier via parallel, not swap cables to run, and never stop my terminal program. But I did dump the code to the real PIC-E and test it last night. The breadboard has the RAMTron chip as well.

Also, most of my tests involved a "null-radio cable", which means I patched the mic line out of a beaconing TNC right into the ear jack of the PIC-E. This gave me very high quality audio, as well as saved my neighbors from QRM. I did have some success with decoding over the radio, but not as well.

I consider this BETA, not becuase it isn't working properly, but because I expect to make inprovments and want people to plan to get the newer code someday!

I'll look forward to comments and suggestions of improvments.

Byon
(So many PIC projects, so little time!!!)

_____
Byon Garrabrant N6BG byon@mail.com

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---
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2. [picsig] Re: PIC-E Receiving

From: "Steven R. Bible" <srbible@gate.net>
Date: Mon, 03 May 1999 10:00:03 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-18891-1999.05.03-09.06.59--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 02:03 AM 5/3/99 -0400, you wrote:
>I know there was(is) a memory problem with RX'ing a whole packet... ie 128 ,
>256, or better still 1024 bytes... but can the '84 hold the path and 32
>bytes? The application is to RX DGPS data at 1200 baud, and passing to the
>GPS. Would it even HAVE to hold the packet until valid check sum could be
>calc'ed? I mean if the packet was damaged, wouldn't the GPS just reject it?
>Could the data just be sent out byte by byte as recieved?

Wes, I am not certain as to why you want to buffer the DGPS corrections.
The GPS recevier will determine if the checksum is correct or not and
accept or reject it. Is there another reason why you want to do this?

>Yes, i know all about how we don't want DGPS on the arps freq... I'm
>Thinking of a DGPS on demand on another simplex freq. Someone hiking would
>punch up a dtmf code and the DGPS data would come back at them for 20 or 30
>seconds, then shut down.

Who said we don't want DGPS on APRS frequencies? Why do people constantly
shoot down a concept/service/idea with bogus data? Show me the model that
says DGPS corrections won't work on APRS.

The concept of DGPS on demand is in the works. A packet command similar to
?DGPS? will invoke the corrections for X seconds and refreshed by every
?DGPS? command received.

- Steve
 (n7hpr@tapr.org)
 (n7hpr@amsat.org)

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3. [picsig] Re: PIC-E Receiving

From: "Wes Johnston" <kd4rdb@bellsouth.net>
Date: Mon, 3 May 1999 17:35:05 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-18977-1999.05.03-16.38.06--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Steve, I personally like the idea of DGPS on the aprs freq. Our little network here in savannah could stand some activity, so DGPS wouldn't get in the way at all. Atlanta may be a different story. But many as you point out, don't care for it... I was being politically correct in hope of staying on subject... the tech. feasibility , and not wishing to side track into the present thread on the aprs sig about csma.

The idea of a ?DGPS? query packet has been thought of before... not sure who thought of it first, but I've mentioned it in correspondance to Bob.

Anyway, the part about buffering the DGPS data was brought up in the context of buffering regular packets (ie kiss frames) to hold them long enough to verify their checksums before passing them on to the host. Thank's for verifying that the GPS will validate them for me.... So this sounds very interesting.... for a $6 pic and a $1.95 modem chip, I suddenly have a way to reiceve DGPS....
Wes - kd4rdb@qsl.net
 http://www.qsl.net/kd4rdb

Where am I?
 http://map.aprs.net/kd4rdb-9
 http://map.aprs.net/kd4rdb-10

CW - the code that stops up your node.
-----Original Message-----
From: Steven R. Bible <srbible@gate.net>
To: TAPR PIC Development Special Interest Group <picsig@lists.tapr.org>
Date: Monday, May 03, 1999 10:03 AM
Subject: [picsig] Re: PIC-E Receiving

>At 02:03 AM 5/3/99 -0400, you wrote:
>>I know there was(is) a memory problem with RX'ing a whole packet... ie 128
,
>>256, or better still 1024 bytes... but can the '84 hold the path and 32
>>bytes? The application is to RX DGPS data at 1200 baud, and passing to
the
>>GPS. Would it even HAVE to hold the packet until valid check sum could be
>>calc'ed? I mean if the packet was damaged, wouldn't the GPS just reject
it?
>>Could the data just be sent out byte by byte as recieved?
>
>Wes, I am not certain as to why you want to buffer the DGPS corrections.
>The GPS recevier will determine if the checksum is correct or not and
>accept or reject it. Is there another reason why you want to do this?
>
>
>>Yes, i know all about how we don't want DGPS on the arps freq... I'm
>>Thinking of a DGPS on demand on another simplex freq. Someone hiking
would
>>punch up a dtmf code and the DGPS data would come back at them for 20 or
30
>>seconds, then shut down.
>
>Who said we don't want DGPS on APRS frequencies? Why do people constantly
>shoot down a concept/service/idea with bogus data? Show me the model that
>says DGPS corrections won't work on APRS.
>
>The concept of DGPS on demand is in the works. A packet command similar to
>?DGPS? will invoke the corrections for X seconds and refreshed by every
>?DGPS? command received.

>
>
>- Steve
> (n7hpr@tapr.org)
> (n7hpr@amsat.org)
>
>
>---
>You are currently subscribed to picsig as: kd4rdb@bellsouth.net
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>
>

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4. [picsig] Re: PIC-E Receiving

From: "Steven R. Bible" <n7hpr@amsat.org>
Date: Mon, 03 May 1999 17:57:02 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-18982-1999.05.03-17.02.30--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 05:35 PM 5/3/99 -0400, you wrote:
>Steve, I personally like the idea of DGPS on the aprs freq. Our little
>network here in savannah could stand some activity, so DGPS wouldn't get in
>the way at all. Atlanta may be a different story. But many as you point
>out, don't care for it... I was being politically correct in hope of staying
>on subject... the tech. feasibility , and not wishing to side track into the
>present thread on the aprs sig about csma.

Then we won't.

>The idea of a ?DGPS? query packet has been thought of before... not sure who
>thought of it first, but I've mentioned it in correspondance to Bob.

It goes back years to when W3IWI transmitted DGPS corrections in the
Baltimore area. Read the GPS.TXT readme in the APRS (DOS) documentation.

>Anyway, the part about buffering the DGPS data was brought up in the context
>of buffering regular packets (ie kiss frames) to hold them long enough to
>verify their checksums before passing them on to the host. Thank's for
>verifying that the GPS will validate them for me.... So this sounds very
>interesting.... for a $6 pic and a $1.95 modem chip, I suddenly have a way
>to reiceve DGPS....

Yes, this capablity has always been there. Generally many hams have TNC's
to interface and thus creating specialize send and receive hardware has not
been high on my list to do.

What modem chip are you using that cost $1.95?

- Steve, N7HPR
  n7hpr@tapr.org
  n7hpr@amsat.org

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5. [picsig] Re: PIC-E Receiving

From: "Wes Johnston" <kd4rdb@bellsouth.net>
Date: Mon, 3 May 1999 18:12:43 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-18984-1999.05.03-17.15.50--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>What modem chip are you using that cost $1.95?

maybe i've put my foot in my mouth again (it's actually getting quite
tasty - or I'm getting used to it).... I thought the mx-614 was cheap?

Wes - kd4rdb@qsl.net
  http://www.qsl.net/kd4rdb

Where am I?
   http://map.aprs.net/kd4rdb-9
   http://map.aprs.net/kd4rdb-10

CW - the code that stops up your node.

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6. [picsig] Stand-Alone-Operation of MX614

From: "K.Hirschelmann" <k.hirschelmann@mainz.netsurf.de>
Date: Tue, 04 May 1999 11:55:33 +0200
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-19063-1999.05.04-05.07.59--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hello,
about two month from now i have asked for experiences in
Stand-Alone-Operation of the MX614 (or FX614)-Modem-Chip. Meanwhile
this Chip sucessfully has been used for the coder and decoder of a
simple Vehicle-Tracking-System and is replacing here the TCM3105.
More details and circuit-diagrams can be found under "codec.htm" on my
GPS-Homepage :
(Sorry, but the text in the moment mainly is in German)
http://rover.wiesbaden.netsurf.de/~hirschgps/codec.htm

Klaus
DJ7OO

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

7. [picsig] Re: PIC-E Receiving

From: "Byon Garrabrant" <byon@mail.com>
Date: Tue, 4 May 1999 23:29:36 -0700
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-19200-1999.05.05-01.34.25--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On 3 May 99, at 2:03, Wes Johnston wrote:

> I know there was(is) a memory problem with RX'ing a whole packet... ie 128
> , 256, or better still 1024 bytes... but can the '84 hold the path and 32
> bytes?

Also, there is probably no reason to buffer the path.

Byon
_____
 Byon Garrabrant N6BG byon@mail.com

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8. [picsig] SCENIX vs PIC

From: "Sadowski, Allan" <allan.sadowski@ncshp.org>
Date: Wed, 5 May 1999 10:11:06 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-19217-1999.05.05-09.13.53--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I am looking closely at the SCENIX parts... and was told they were pin
compatable with PIC's... does someone here have PIN assignments on
PIC's that correspond to the SXC18AC and SX28AC parts (the two
skinny DIP Scenix parts)..

More succently... what PIC parts have the same pin assignment to the
two above mentioned Scenix parts...

THANKS in advance
ALOHA
AH6LS

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9. [picsig] Re: SCENIX vs PIC

From: "Jeff King" <jeff@aerodata.net>
Date: Wed, 5 May 1999 14:34:06 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-19259-1999.05.05-13.39.27--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

"Sadowski, Allan" <allan.sadowski@ncshp.org> said:

> I am looking closely at the SCENIX parts... and was told they were pin
> compatable with PIC's... does someone here have PIN assignments on PIC's
> that correspond to the SXC18AC and SX28AC parts (the two skinny DIP Scenix
> parts)..
>
> More succently... what PIC parts have the same pin assignment to the two
> above mentioned Scenix parts...

I don't know much (other then the marketing blurbs) about the
Scenix, but when they came out with it they were targeting the
16C5x sockets. So, look at a 16C54 (18pin) and 16C57 (28 pin) for
the closest match.

But most of the PIC parts have the same pinout across families,
(the 16C5x 18 pinners don't have RA4) so you should be able to
cross them to just about anything.

-Jeff

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10. [picsig] New Pic-E's?

From: Sam Smith <sam.smith@ece.gatech.edu>
Date: Fri, 07 May 1999 09:44:36 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-19593-1999.05.07-08.49.17--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Any idea when these will start shipping? My name is on the waiting list,
but I'm not going to Dayton.
--
Sam Smith N4MAP
Georgia Tech, ECE 0250, Atlanta, GA USA 30332
http://www.ee.gatech.edu/users/sam
http://www.mindspring.com/~sam.smith

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

11. [picsig] Re: New Pic-E's?

From: "Steven R. Bible" <srbible@gate.net>
Date: Fri, 07 May 1999 09:53:40 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-19595-1999.05.07-09.00.49--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 09:44 AM 5/7/99 -0400, you wrote:
>Any idea when these will start shipping? My name is on the waiting list,
>but I'm not going to Dayton.

Sam, very close now. Expect the orders to the office to ship right after
Dayton.

- Steve

(n7hpr@tapr.org)
(n7hpr@amsat.org)

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

12. [picsig] decoding problems

From: "kc5goi" <kc5goi@pacecar.infospeedway.net>
Date: Fri, 7 May 1999 09:02:54 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-19596-1999.05.07-09.07.53--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

John and Steven, Refresh my memory on what it is you need for diagnostic info on the quality of transmitted packets. I can bring this info with me to Dayton and if time permits we can discuss it and find out what it is I am doing wrong. I was swampped the last 2 wks with a bike ride and was not able to work on it. I am having troubles with the GPS program John released recently and the only one that I can get to be decoded is still having problems with the icon changing. Byons "HI WORLD" code is working fine and I get better than 90% of the packets. That tells me that the pic-e is ok in a hardware sense and that RF is not getting into the unit. I am using a KPC-3 and recently got a PK12. I will have both do rx duties and see f it a specific to a tnc type if that will help out. The PK12 is a TAPR TNC2 clone.

73, Guy

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13. [picsig] General Announcement APRS Working Group (APRS-WG)

From: Greg Jones <wd5ivd@tapr.org>
Date: Mon, 17 May 1999 10:29:10 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-21127-1999.05.17-10.34.16--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

General Announcement regarding the formation of the
APRS Working Group (APRS-WG)

As a result of the dialog held among the primary authors of APRS, the APRS Working Group (APRS-WG) is being founded to aid with the development and growth of APRS. What follows is information on the APRS-WG and initial plans for the next eight months. As promised in the initial agreement between the authors this announcement covers the substantive outcomes that have occurred in private on-line discussion and at the in-person meeting held on May 1-2, 1999.

The APRS-WG would like to thank all those involved and the APRS community as a whole for allowing this process to happen in the manner that it did. The results we fell will benefit the APRS community as a whole.

Greg Jones, WD5IVD
for the APRS Working Group

==========

APRS Working Group

Mission Statement

APRS, developed by Bob Bruninga, WB4APR, is an Amateur Radio digital infrastructure for realtime and tactical digital communications. It is designed to provide communications during emergencies, but it is recognized to support routine round-the-clock global communications as well. Its applications include mapping, messaging, telemetry, and tracking. It uses a standard protocol over RF links, supplemented by alternate communication methodologies.

The APRS Working Group

The APRS Working Group ("Group)" is an unincorporated association whose

members undertake to further the use and enhance the value of the APRS protocols by (a) maintaining and publishing a formal APRS Protocol Specification; (b) publishing validation tests and other tools to enable compliance with the Specification; (c) supporting an APRS Certification program; and (d) generally working to improve the capabilities of APRS within the Amateur Radio community. This document describes the organization and operation of the Group.
Although the Group may receive support from TAPR or other organizations, it is an independent body and is not affiliated with any organization. The Group will have no budget, collect no dues, and own no assets.

Statement of Principles

At a meeting near Baltimore, Maryland on May 1-2, 1999, and in email communications in the days following, the Group members agreed to the following principles that will govern their behavior and that of the Group:

1. Bob Bruninga has been the primary developer of the APRS concept. He owns the APRSdos computer program, the APRSdos documentation, and the APRS trademark, and retains the right to license these items to others.

2. All Group members agree that in the spirit of Amateur Radio, the on-air protocols themselves should be open to general Amateur Radio development and not be restricted by copyright.

2. Existing agreements between or among APRS developers are unaffected by this Charter.

3. The Group will formalize the APRS on-air Protocol Specification and publish a definitive APRS protocol document. Present plans are to make the specification in book and diskette form, and possibly to provide it via electronic distribution.

4. A process will be put in place to define how changes to the protocol specification are made, and that process will permit input, review, and comment by the Amateur Radio public.

5. The Group will put a voluntary APRS certification process in place, to be managed by Bob Bruninga with Group oversight. The process will include a publicly available validation suite.

Protocol Committee

The APRS Protocol Specification is the formal definition of the data elements and message formats used to communicate between APRS devices via wireless or wired (e.g., Internet) connections. It does not include user interface or other elements that do not affect the content or format of these interface components.

The Protocol Committee, which presently consists of all APRS-WG Members, is responsible for the APRS Protocol Specification. It manages the process for publishing and updating the Specification, and for receiving public comment on proposed changes.

The Protocol Committee intends to publish Version 1.0 of the APRS Protocol Specification by the end of October 1999. The first draft of the Specification will be made available to the Amateur Radio community by the end of June 1999, and comments will be accepted as defined below.

Committee Operations and Community Input

Input from the APRS user community, other APRS developers, and the amateur community at large is a key component of the protocol development process. Once the process has been formally defined it will be announced and published.

Certification Committee

The Group wants to encourage the development of products that properly implement the APRS protocols. To that end, the Certification Committee, which is initially composed of all Group members, will establish a Certification Program. Certification is wholly voluntary on the part of an APRS product developer, and the Certification Program is available on an equal basis to any developer.
The full certification process and schedule will be announced and published

shortly after Dayton. Some of the points of certification include:

1. The Committee will develop and approve a Validation Suite, which will be the primary basis for Certification. The Suite will consist of test inputs and a description of how a product complying with the Protocol Specification should react to each of these inputs. The suite will be based on the TAPR TNC-2 packet display format. The Validation Suite will be made available to the public without charge.

2. Bob Bruninga will manage the Certification Program on behalf of the Committee, subject to oversight by the Committee.

3. Subject to compliance with a Certification Agreement that must be signed before Certification is granted, Certified Products will be permitted to display or be advertised in conjunction with an "APRS Certified" trademark and logo. The trademark and logo are owned by Bob Bruninga and are licensed subject to the Certification Agreement.

4. Certified Products must successfully complete the Validation Suite, but applicants must acknowledge that additional testing may be necessary to ensure that a given Product properly implements the Protocol Specification, and agree to reasonably cooperate with such testing.

5. The Certification process is largely self-managed. The applicant must run the validation suite and submit results with the application. The Committee will conduct such testing as it deems necessary to verify the Product's conformance to the Protocol Specification.

Full details regarding membership to APRS-WG, meeting and voting process, protocol committee, and the certification process will be made available once the rules have been fully developed.

==========

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

14. [picsig] My PIC-E kit arrived

From: "Brian B. Riley" <brianbr@macconnect.com>
Date: Mon, 24 May 1999 17:16:44 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-22430-1999.05.24-16.22.21--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

for what its worth, the PIC-E kit I rodered from TAPR awhile back arrived
today via Priority mail!
Now, to get the soldering iron out ....

Brian B. Riley --> http://members.macconnect.com/~brianbr
   For PGP Keys <mailto:brianbr@wulfden.org?subject=Get%20PGP%20Key>

  "If this is the first day of the rest of my life, I am in DEEP trouble!"

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15. [picsig] Got mine today - Latest instructions?

From: "Thomas M. Schaefer" <toms@inconnect.com>
Date: Wed, 26 May 1999 16:12:22 -0600
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-22799-1999.05.26-17.17.15--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I got the PIC-E today. I noticed the instructions in it. Does anyone know if these are the latest ones or should I get the ones from the website?

Tom NY4I

16. [picsig] Re: Got mine today - Latest instructions?

From: "Steven R. Bible" <srbible@gate.net>
Date: Wed, 26 May 1999 18:51:58 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-22802-1999.05.26-17.58.12--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 04:12 PM 5/26/99 -0600, you wrote:
>   I got the PIC-E today. I noticed the instructions in it. Does anyone
>know if these are the latest ones or should I get the ones from the
>website?   Tom NY4I

Tom, the latest instructions were shipped with your kit. If you look up at
the top you'll see Rev. 1 dated May 1999. That's how you tell with any
TAPR kit/instructions.

The latest is always posted on the web site in case anyone wants to preview
a kit or if they lost their instructions.

73,
- Steve, N7HPR
  n7hpr@tapr.org
  n7hpr@amsat.org

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17. [picsig] Re: Got mine today - Latest instructions?

From: Sam Smith <sam.smith@ece.gatech.edu>
Date: Thu, 27 May 1999 08:00:45 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-22892-1999.05.27-07.06.34--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Got mine yesterday. Put it together last night and ran the diag program
OK.

So who's writing the DGPS-in, $GPGGA-out program :-)?
--
Sam Smith N4MAP
Georgia Tech, ECE 0250, Atlanta, GA USA 30332
http://www.ee.gatech.edu/users/sam
http://www.mindspring.com/~sam.smith

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18. [picsig] Re: Got mine today - Latest instructions?

From: Jeff King <jeff@aerodata.net>
Date: Thu, 27 May 1999 11:21:29 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Cc: Sam Smith <sam.smith@ece.gatech.edu>
Message-ID: <LYR6890-22943-1999.05.27-10.32.47--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Sam Smith wrote:

>
> So who's writing the DGPS-in, $GPGGA-out program :-)?

What exactly is this and what does it do? It might be worth
writing if I knew what is was.

-Jeff

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19. [picsig] Re: Got mine today - Latest instructions?

From: Sam Smith <sam.smith@ece.gatech.edu>
Date: Thu, 27 May 1999 12:42:41 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-22964-1999.05.27-11.48.30--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Jeff King wrote:
>
> Sam Smith wrote:
>
> >
> > So who's writing the DGPS-in, $GPGGA-out program :-)?
>
> What exactly is this and what does it do? It might be worth
> writing if I knew what is was.
>
> -Jeff

It's what I need for a low-cost orienteering tracker. Receive DGPS
corrections and transmit $GPGGA sentences.
1) accept packets addressed to DGPS and route them to the GPS port at
4800 baud, without the header or address info. I don't think you need to
buffer this packet, since the GPS will be able to tell if it is OK.
2) Monitor the GPS port and periodically (every 20 seconds or so) send
out the latest $GPGGA sentence. The GPGGA sentence has position, time,
and DGPS status.
3) To save time, realize that the GPS data is redundant and there is
always another GPGGA sentence coming along, so ignore the GPS-in when
you're processing the DGPS-in or RTCM-out to the GPS.
4) Get the time from the GPGGA sentence, so no need for the pic to keep
track of the time.
5) Since you're allready decoding the TO address looking for DGPS, you
might as well look for your own call sign and do a very simple limited
command set. (stop xmit, send status, etc.)

I don't know if this will fit on the pic-e or not. I've thought about it
a lot, but I just got my pic so haven't done any experimenting. My
assembler is rusty :-)

--
Sam Smith N4MAP
Georgia Tech, ECE 0250, Atlanta, GA USA 30332
http://www.ee.gatech.edu/users/sam
http://www.mindspring.com/~sam.smith

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20. [picsig] Re: Got mine today - Latest instructions?

From: "Sissom, Jay D" <jsissom@indiana.edu>
Date: Thu, 27 May 1999 12:22:19 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-22966-1999.05.27-12.27.59--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I received my pic-e at Dayton and built it this week. I hope to get the
connector for my radio built tonight.

This application below might be too much for the Pic processor, but you
never know. There are a couple things I would like to try, but they too
seem like they could be too much for the Pic processor. I'm thinking about
building a Pic-E with an 8031 processor instead. I guess it would be an
8031-E :). An 8031 with an external Eprom has 64K of code space and could
have 64K of RAM also.

Before I go to all that trouble though, I need to learn the Pic assembly
language and see what I can make it do. I just wanted to throw it out as a
possible option. It wouldn't be that difficult to make. It wouldn't be as
easy to program as the pic though.

I just bought a book from fatbrain.com called "Microcontroller Cookbook: PIC
and 8051. It's pretty expensive, but it explains the 8051 and PIC family of
processors pretty well. If you don't know much about PIC processors, it
could be a good reference.

Jay KA9OKT

-----Original Message-----
From: Sam Smith [mailto:sam.smith@ece.gatech.edu]
Sent: Thursday, May 27, 1999 11:43 AM
To: TAPR PIC Development Special Interest Group
Subject: [picsig] Re: Got mine today - Latest instructions?

Jeff King wrote:
>
> Sam Smith wrote:
>
> >
> > So who's writing the DGPS-in, $GPGGA-out program :-)?
>
> What exactly is this and what does it do? It might be worth
> writing if I knew what is was.
>
> -Jeff

It's what I need for a low-cost orienteering tracker. Receive DGPS
corrections and transmit $GPGGA sentences.
1) accept packets addressed to DGPS and route them to the GPS port at
4800 baud, without the header or address info. I don't think you need to
buffer this packet, since the GPS will be able to tell if it is OK.
2) Monitor the GPS port and periodically (every 20 seconds or so) send
out the latest $GPGGA sentence. The GPGGA sentence has position, time,
and DGPS status.
3) To save time, realize that the GPS data is redundant and there is
always another GPGGA sentence coming along, so ignore the GPS-in when
you're processing the DGPS-in or RTCM-out to the GPS.
4) Get the time from the GPGGA sentence, so no need for the pic to keep
track of the time.
5) Since you're allready decoding the TO address looking for DGPS, you
might as well look for your own call sign and do a very simple limited
command set. (stop xmit, send status, etc.)

I don't know if this will fit on the pic-e or not. I've thought about it
a lot, but I just got my pic so haven't done any experimenting. My
assembler is rusty :-)

--
Sam Smith N4MAP
Georgia Tech, ECE 0250, Atlanta, GA USA 30332
http://www.ee.gatech.edu/users/sam
http://www.mindspring.com/~sam.smith

You are currently subscribed to picsig as: jsissom@exchange.indiana.edu
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

---
You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

21. [picsig] DGPS in, $GPGGA-out [was Re: Got mine today - Latest instructions?]

From: "Steven R. Bible" <srbible@gate.net>
Date: Thu, 27 May 1999 13:37:33 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-22968-1999.05.27-12.45.41--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Sam,

You bring up a very interesting application. If you look in the software
directory

   ftp://ftp.tapr.org/picsig/software/

You'll see code Byon N6BG wrote for packet receive. You are correct that
there is no need to check the RTCM sentences as they have their own
checksum. I'm confident that the PIC has enough horse power to receive
bits and pass them on to the GPS receiver.

Take a look at Byon's code and give it a try.

- Steve, N7HPR

At 12:42 PM 5/27/99 -0400, you wrote:
>Jeff King wrote:
>>
>> Sam Smith wrote:
>>
>> >
>> > So who's writing the DGPS-in, $GPGGA-out program :-)?

>>
>> What exactly is this and what does it do? It might be worth
>> writing if I knew what is was.
>>
>> -Jeff
>
>It's what I need for a low-cost orienteering tracker. Receive DGPS
>corrections and transmit $GPGGA sentences.
>1) accept packets addressed to DGPS and route them to the GPS port at
>4800 baud, without the header or address info. I don't think you need to
>buffer this packet, since the GPS will be able to tell if it is OK.
>2) Monitor the GPS port and periodically (every 20 seconds or so) send
>out the latest $GPGGA sentence. The GPGGA sentence has position, time,
>and DGPS status.
>3) To save time, realize that the GPS data is redundant and there is
>always another GPGGA sentence coming along, so ignore the GPS-in when
>you're processing the DGPS-in or RTCM-out to the GPS.
>4) Get the time from the GPGGA sentence, so no need for the pic to keep
>track of the time.
>5) Since you're allready decoding the TO address looking for DGPS, you
>might as well look for your own call sign and do a very simple limited
>command set. (stop xmit, send status, etc.)
>
>I don't know if this will fit on the pic-e or not. I've thought about it
>a lot, but I just got my pic so haven't done any experimenting. My
>assembler is rusty :-)
>
>--
>Sam Smith N4MAP
>Georgia Tech, ECE 0250, Atlanta, GA USA 30332
>http://www.ee.gatech.edu/users/sam
>http://www.mindspring.com/~sam.smith
>
>---
>You are currently subscribed to picsig as: srbible@gate.net
>To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org
>
>
>
- Steve
 (n7hpr@tapr.org)
 (n7hpr@amsat.org)

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

22. [picsig] Re: Got mine today - Latest instructions?

From: "Steven R. Bible" <srbible@gate.net>
Date: Thu, 27 May 1999 13:42:22 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-22969-1999.05.27-12.50.27--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

The PIC that comes with the PIC-E kit is the PIC16F84. Don't feel that
this is the only PIC that will plug into the PIC-E board. There are
several other PIC's with the same exact pin-out as the 'F84 you can use.
The difference is that you CANNOT use the onboard PIC programmer on the
PIC-E. You will have to program the PIC on a stand-alone PIC programmer
and an UV eraser. A low cost programmer costs between $50.00 - $150.00 and
a UV eraser around $50.00.

I have engineering samples of the PIC16C662 which looks very promissing as
a substitute. I don't have the data sheet with me but you can read about
it on the Microchip web site

    http://www.microchip.com

PIC programming is not difficult. Give is a try. There are some good
books out there plus a lot of stuff on the web. Just do a search on PIC.

- Steve, N7HPR

At 12:22 PM 5/27/99 -0500, you wrote:
>I received my pic-e at Dayton and built it this week. I hope to get the
>connector for my radio built tonight.
>

>This application below might be too much for the Pic processor, but you
>never know. There are a couple things I would like to try, but they too
>seem like they could be too much for the Pic processor. I'm thinking about
>building a Pic-E with an 8031 processor instead. I guess it would be an
>8031-E :). An 8031 with an external Eprom has 64K of code space and could
>have 64K of RAM also.
>
>Before I go to all that trouble though, I need to learn the Pic assembly
>language and see what I can make it do. I just wanted to throw it out as a
>possible option. It wouldn't be that difficult to make. It wouldn't be as
>easy to program as the pic though.
>
>I just bought a book from fatbrain.com called "Microcontroller Cookbook: PIC
>and 8051. It's pretty expensive, but it explains the 8051 and PIC family of
>processors pretty well. If you don't know much about PIC processors, it
>could be a good reference.
>
>Jay KA9OKT
>
>-----Original Message-----
>From: Sam Smith [mailto:sam.smith@ece.gatech.edu]
>Sent: Thursday, May 27, 1999 11:43 AM
>To: TAPR PIC Development Special Interest Group
>Subject: [picsig] Re: Got mine today - Latest instructions?
>
>
>Jeff King wrote:
>>
>> Sam Smith wrote:
>>
>> >
>> > So who's writing the DGPS-in, $GPGGA-out program :-)?
>>
>> What exactly is this and what does it do? It might be worth
>> writing if I knew what is was.
>>
>> -Jeff
>
>It's what I need for a low-cost orienteering tracker. Receive DGPS
>corrections and transmit $GPGGA sentences.
>1) accept packets addressed to DGPS and route them to the GPS port at
>4800 baud, without the header or address info. I don't think you need to
>buffer this packet, since the GPS will be able to tell if it is OK.
>2) Monitor the GPS port and periodically (every 20 seconds or so) send
>out the latest $GPGGA sentence. The GPGGA sentence has position, time,
>and DGPS status.
>3) To save time, realize that the GPS data is redundant and there is
>always another GPGGA sentence coming along, so ignore the GPS-in when
>you're processing the DGPS-in or RTCM-out to the GPS.
>4) Get the time from the GPGGA sentence, so no need for the pic to keep
>track of the time.
>5) Since you're allready decoding the TO address looking for DGPS, you
>might as well look for your own call sign and do a very simple limited
>command set. (stop xmit, send status, etc.)
>
>I don't know if this will fit on the pic-e or not. I've thought about it
>a lot, but I just got my pic so haven't done any experimenting. My
>assembler is rusty :-)
>
>--
>Sam Smith N4MAP
>Georgia Tech, ECE 0250, Atlanta, GA USA 30332
>http://www.ee.gatech.edu/users/sam
>http://www.mindspring.com/~sam.smith
>
>---
>You are currently subscribed to picsig as: jsissom@exchange.indiana.edu
>To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org
>
>---
>You are currently subscribed to picsig as: srbible@gate.net
>To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org
>
>
>
- Steve
 (n7hpr@tapr.org)
 (n7hpr@amsat.org)

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

23. [picsig] Re: Got mine today - Latest instructions?

From: "Jeff King" <jeff@aerodata.net>
Date: Thu, 27 May 1999 13:23:13 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-22974-1999.05.27-13.09.10--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Sam:

Couple basic questions/clarifications:

 Sam Smith wrote:

>
> It's what I need for a low-cost orienteering tracker. Receive DGPS
> corrections and transmit $GPGGA sentences.

Receive DGPS from where? Transmit $GPGGA to whom?

> 1) accept packets addressed to DGPS and route them to the GPS port at 4800
> baud, without the header or address info. I don't think you need to buffer
> this packet, since the GPS will be able to tell if it is OK.

OK, so pick up the DGPS string from a ham AX.25 transmission?
Like from (I think) the TAPR board? So you'll want to do AX.25
decoding, then parsing, then send it out a 4800bps serial port to
the second port of your GPS receiver?

> 2) Monitor
> the GPS port and periodically (every 20 seconds or so) send out the latest
> $GPGGA sentence. The GPGGA sentence has position, time, and DGPS status.

Monitor the GPS port on your GPS receiver? Then send it out
AX.25 transmit as a standard $GPGGA NEMA string?

So, do I understand what you are trying to do?

>
> I don't know if this will fit on the pic-e or not.

I think the major missing piece of software is AX.25 receive. I heard
someone was working on that, but not sure if it has been released
yet. If you run out of ROM space on a 'pic-e' you can always pop a
16C622 in there (OTP) as that will give you 2K of ROM.

-Jeff

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24. [picsig] Re: Got mine today - Latest instructions?

From: Sam Smith <sam.smith@ece.gatech.edu>
Date: Thu, 27 May 1999 14:27:32 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Cc: picsig@lists.tapr.org
Message-ID: <LYR6890-22976-1999.05.27-13.33.16--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Jeff King wrote:
>
> Sam:
>
> Couple basic questions/clarifications:
>
The packets from the tapr DGPSIB, which are AX.25, addressed to DGPS,
are what I want to receive, then send the data to the GPS at 4800 baud.
No need to buffer this packet, since the GPS will check it, just act as
a "modem".

Receive the $GPGGA NMEA sentence from the GPS at 4800 baud, and transmit
it (every 20 seconds or so), as an AX.25 UI packet addressed to GPSxxx,
which the various APRS software programs will display as a tracker.

This way I can get rid of the picopacket on my tracker, and just use a
PIC-E. The TNC is now half the price, and I can construct more
orienteering trackers and watch more orienteers run around in the
woods:-)

Anyway, I'm going to try adapting Byon Garrabrant's code examples, and
see what I can come up with.
--
Sam Smith N4MAP
Georgia Tech, ECE 0250, Atlanta, GA USA 30332
http://www.ee.gatech.edu/users/sam
http://www.mindspring.com/~sam.smith

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

25. [picsig] PIC E programmer problems

From: "Thomas M. Schaefer" <toms@inconnect.com>
Date: Mon, 31 May 1999 21:12:49 -0600
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-23670-1999.05.31-22.18.43--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I received my PIC-E and put it together. The voltage checks went fine. I checked the board for cold solder joints and solder bridges. BUT, I cannot seem to program it. I hooked it up to my PC and a laptop with a 6 foot cable with all pins through, but nothing. When I try to talk to the PIC-E with picprog, it tells me the PIC is not there. I checked the voltage at PIN 13 (Data In?). When the COM port is connected, it shows 3 volts. When picprog tries to program it, it fluctuates wildly (my VOM cannot get a reading , of course, and I do not have a scope). Vdd is also powered to 5 volts all the time.

I have used Win95 and Win98 to try and program it. I am going to hook it up to my "built like a tank" IBM PC, and try the WIndows and DOS programmers. I am hoping that the ports I have used so far just do not suppl;y enough power to program it. (BTW, I have tried it with J4 on and off). Does anyone have any ideas? The kit went together so well, that this seems almost trivial, but such as it is, it is still a problem.

One other idea I had was to go to a friends place and use his programmer to program PICEDIAG into it and run through the tests to ensure the PIC-E is built properly. Any comments would be most appreciated.

Tom NY4I

On the subject of power

26. [picsig] Re: PIC E programmer problems

From: "D. F. Welch" <amersci@flash.net>
Date: Mon, 31 May 1999 20:39:15 -0700
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-23677-1999.05.31-22.45.07--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/enriched

At 09:12 PM 5/31/99 -0600, you wrote:

>>>>

<excerpt><fontfamily><param>Arial</param><smaller>I received my PIC-E and
put it together. The voltage checks went fine. I checked the board for
cold solder joints and solder bridges. BUT, I cannot seem to program it.
I hooked it up to my PC and a laptop with a 6 foot cable with all pins
through, but nothing. When I try to talk to the PIC-E with picprog, it
tells me the PIC is not there. I checked the voltage at PIN 13 (Data
In?). When the COM port is connected, it shows 3 volts. When picprog
tries to program it, it fluctuates wildly (my VOM cannot get a reading ,
of course, and I do not have a scope). Vdd is also powered to 5 volts all
the time.

</smaller></fontfamily>

</excerpt><<<<<<<<<

  If you're certain that there is no wiring error & that you

didn't accidently plug any IC's in backwards or the wrong way

then the next thing to try is a different PC. I have one PC

which not only refuses to program the PIC but even commits

suicide when I try. All my other machines work fine so you may have the
same problem.

-Dan Welch - w6dfw

>>>>

<excerpt>

<fontfamily><param>Arial</param><smaller>I have used Win95 and Win98 to
try and program it. I am going to hook it up to my "built like a tank"
IBM PC, and try the WIndows and DOS programmers. I am hoping that the
ports I have used so far just do not suppl;y enough power to program it.
(BTW, I have tried it with J4 on and off). Does anyone have any ideas?
The kit went together so well, that this seems almost trivial, but such
as it is, it is still a problem.

</smaller></fontfamily>

<fontfamily><param>Arial</param><smaller>One other idea I had was to go
to a friends place and use his programmer to program PICEDIAG into it and
run through the tests to ensure the PIC-E is built properly. Any comments
would be most appreciated.

</smaller></fontfamily></excerpt><<<<<<<<

  Loading the diagnostics as the first program is a good

way to go

 Dan Welch - w6dfw

>>>>

<excerpt><fontfamily><param>Arial</param><smaller>

</smaller></fontfamily></excerpt><<<<<<<<

>>>>

<excerpt>

<fontfamily><param>Arial</param><smaller>Tom NY4I

</smaller></fontfamily>

<fontfamily><param>Arial</param><smaller>On the subject of power

</smaller></fontfamily>

</excerpt><<<<<<<<<

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27. [picsig] PIC E programmer problem UPDATE

From: "Thomas M. Schaefer" <toms@inconnect.com>
Date: Mon, 31 May 1999 22:29:39 -0600
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-23681-1999.05.31-23.35.33--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Updates...

I went to another computer. When I run PIX, the PWR LED will light when I try to read the chip. The active Yellow LED even flickers. But, this LED activity only happens when JP4 is IN, not out. if this helps. I would be interested in anyone telling me if the PIC has enough power and signal if the LED lights. But, why it only lights when the rest of the circuit is present (I do not know). When I try and program it, I get an error in PIX about it expecting some other value. Again, it does READ the chip OK (at least as far as I can tell). I cannot run PICPROG on this system as it is Win31 with Win32. The

computer hangs when I program it. I am going to try and find my October 1998 QST to see what I am doing wrong in PIX. I will try again with a small

> ----- Original Message -----
> From: D. F. Welch
> To: TAPR PIC Development Special Interest Group
> Sent: Monday, May 31, 1999 9:39 PM
> Subject: [picsig] Re: PIC E programmer problems
>
> At 09:12 PM 5/31/99 -0600, you wrote:
> >>>>

I received my PIC-E and put it together. The voltage checks went fine. I checked the board for cold solder joints and solder bridges. BUT, I cannot seem to program it. I hooked it up to my PC and a laptop with a 6 foot cable with all pins through, but nothing. When I try to talk to the PIC-E with picprog, it tells me the PIC is not there. I checked the voltage at PIN 13 (Data In?). When the COM port is connected, it shows 3 volts. When picprog tries to program it, it fluctuates wildly (my VOM cannot get a reading , of course, and I do not have a scope). Vdd is also powered to 5 volts all the time.

> <<<<
> If you're certain that there is no wiring error & that you
> didn't accidently plug any IC's in backwards or the wrong way
> then the next thing to try is a different PC. I have one PC
> which not only refuses to program the PIC but even commits
> suicide when I try. All my other machines work fine so you may have the same problem.
>
> -Dan Welch - w6dfw
> >>>>

I have used Win95 and Win98 to try and program it. I am going to hook it up to my "built like a tank" IBM PC, and try the WIndows and DOS programmers. I am hoping that the ports I have used so far just do not suppl;y enough power to program it. (BTW, I have tried it with J4 on and off). Does anyone have any ideas? The kit went together so well, that this seems almost trivial, but such as it is, it is still a problem.

One other idea I had was to go to a friends place and use his programmer to program PICEDIAG into it and run through the tests to ensure the PIC-E is built properly. Any comments would be most appreciated.

> <<<<
>
> Loading the diagnostics as the first program is a good
> way to go
> Dan Welch - w6dfw
> >>>>

> <<<<
>
> >>>>

Tom NY4I

On the subject of power

> <<<<

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June 1999

Original source file: picsig.9906
Source: http://ftp.tapr.org/tapr_history/SIG_Archives/picsig/mail_archive/picsig.9906

1. [picsig] Re: PIC E programmer problem UPDATE

From: John Hansen <john@hansen.net>
Date: Tue, 01 Jun 1999 08:56:49 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-23731-1999.06.01-08.04.07--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 10:29 PM 5/31/99 -0600, you wrote:
>
> Updates...
>
> I went to another computer. When I run PIX, the PWR LED will light when I try
> to read the chip. The active Yellow LED even flickers. But, this LED activity
> only happens when JP4 is IN, not out. if this helps. I would be interested in
> anyone telling me if the PIC has enough power and signal if the LED lights.
> But, why it only lights when the rest of the circuit is present (I do not
> know). When I try and program it, I get an error in PIX about it expecting
> some other value. Again, it does READ the chip OK (at least as far as I can
> tell). I cannot run PICPROG on this system as it is Win31 with Win32. The
> computer hangs when I program it. I am going to try and find my October 1998
> QST to see what I am doing wrong in PIX. I will try again with a small

>
> The active light is connected to the MX 614, not the PIC and should only
> light if the MX 614 is sensing received audio. I would not assume because
> the chip appears to read correctly that it actually does without taking a
> look at the resulting file to see if it seems to be correct. I'd recheck the
> wiring. If you get really stuck here is one potential approach. If you'd
> like I could send you a cheapo PIC programmer that I know works. You could
> then take the chip out of the PIC-E, program it in the programmer with the
> test code that flashes the lights, etc. and put the chip back in the PIC-E.
> If that works, you could conclude the PIC-E is working well and focus on
> problems with the programming circuit. If it doesn't work, you'd either have
> a bad PIC chip (a think we did run across one case of that) or that there is
> a wiring error in the PIC-E.
>
> Anyway, if you find you're stumped on the debugging process, send me an
> e-mail message with your address and I'll send a programmer out to you.
>
> John, W2FS

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2. [picsig] Re: PIC E programmer problems

From: "Steven R. Bible" <srbible@gate.net>
Date: Tue, 01 Jun 1999 10:02:35 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-23739-1999.06.01-09.11.16--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Tony,

Do try and program the PIC16F84 in another PIC programmer to rule out the
PIC. During the evaluate period of the PIC-E, we had one out 50 PICs that
would not program at all, much like your problem. Since this person bought
two PIC-E's, he was able to move the PIC to the other PIC-E which he knew
worked. The PIC would not program. I sent him a new PIC as he sent me the
(supposed) bad PIC. I could program this bad PIC in my standalone PIC
programmer (a Microchip PICSTART Plus) no problems. But in any of my
PIC-E's I could not.

So we had that one PIC in 50 that manufacturing tolerances were at the high
end. The PIC-E programmer (the same as John Hansen's W2FS QST article)
does take some liberties in programming the 'F84. The PIC can be within
manufacturing specs and the PIC-E (and perhaps John's) programmer may not
work, but a production programmer can.

So, do try programming the PIC in another programmer to rule this out. It
has happened once. If it does turn out to be the PIC, let me know and
we'll replace it.

- Steve
 (n7hpr@tapr.org)
 (n7hpr@amsat.org)

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3. [picsig] Programming problem solved

From: "Thomas M. Schaefer" <toms@inconnect.com>
Date: Wed, 2 Jun 1999 01:31:48 -0600
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-23827-1999.06.02-02.37.55--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

My recent programming problem of the pIC-E has been solved. Basically, it was the computer. I took the PIC-E to a friend's and used his PICSTART Plus to program it. It worked fine. Then, we took the same computer (and the 6 foot serial ribbon cable) and programmed it with PICPROG. Then, we took an IBM laptop and programmed it. All worked fine.

I was able to program a PIC with GPS-E-2A from a laptop, but PICPROG does not run on it because of a floating point error.

Thanks to all for making suggestions...

Tom Ny4I

4. [picsig] Re: Programming problem solved

From: John Hansen <john@hansen.net>
Date: Wed, 02 Jun 1999 07:41:03 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-23834-1999.06.02-06.47.06--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 01:31 AM 6/2/99 -0600, you wrote:
>
> My recent programming problem of the pIC-E has been solved. Basically, it was
> the computer. I took the PIC-E to a friend's and used his PICSTART Plus to
> program it. It worked fine. Then, we took the same computer (and the 6 foot
> serial ribbon cable) and programmed it with PICPROG. Then, we took an IBM
> laptop and programmed it. All worked fine.
>
> I was able to program a PIC with GPS-E-2A from a laptop, but PICPROG does not
> run on it because of a floating point error.
>
> Thanks to all for making suggestions...
>
>
> Tom Ny4I

This is the first I've heard of this specific kind of error with PICPROG. Can you tell us what the processor is in the laptop, what brand it is and what operating system its running? Using a six foot ribbon serial cable for programming may be pushing your luck a bit. If you have additional problems, try something shorter. Glad to hear you are up and running.

73, John W2FS

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

5. [picsig] Re: Programming problem solved

From: "Thomas M. Schaefer" <toms@inconnect.com>
Date: Wed, 2 Jun 1999 10:06:22 -0600
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Cc: <john@hansen.net>
Message-ID: <LYR6890-23866-1999.06.02-11.11.40--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Sure,

It is an NEC laptop that has a 486/33 DX (maybe). I say maybe because that is what it is marked, but I have not verified it internally yet. It is

running Windows 95. My Toshiba desktop running Windows 98 cannot talk to it either. Note that the same laptop (with Win95) can run your GPS-E-2A program. It programmed the chip and when I applied power, the yellow LED flashed. What is strange is that if the 95 install does not detect a floating point processor (although the DX has one), it runs a software FP processor.

Also, I cannot run the program on Win31 on an IBM PS/2 with a 486 SX. The docs for PICPROG really should address that it does not run on low end systems. One of the systems I could program it on was a ThinkPad with a 486 DX/75.

Note, I also tried PIX on these computers, but no luck. I get a message about it expecting F000, but found 3F00. This happens on the laptop that can program it with GPS-E-2A. I will find the right combination...

Tom NY4I
----- Original Message -----
From: John Hansen <john@hansen.net>
To: TAPR PIC Development Special Interest Group <picsig@lists.tapr.org>
Sent: Wednesday, June 02, 1999 5:41 AM
Subject: [picsig] Re: Programming problem solved

> At 01:31 AM 6/2/99 -0600, you wrote:
> >
> > My recent programming problem of the pIC-E has been solved. Basically, it was
> > the computer. I took the PIC-E to a friend's and used his PICSTART Plus to
> > program it. It worked fine. Then, we took the same computer (and the 6 foot
> > serial ribbon cable) and programmed it with PICPROG. Then, we took an IBM
> > laptop and programmed it. All worked fine.
> >
> > I was able to program a PIC with GPS-E-2A from a laptop, but PICPROG does not
> > run on it because of a floating point error.
> >
> > Thanks to all for making suggestions...
> >
> >
> > Tom Ny4I
>
>
> This is the first I've heard of this specific kind of error with PICPROG. Can
> you tell us what the processor is in the laptop, what brand it is and what
> operating system its running? Using a six foot ribbon serial cable for
> programming may be pushing your luck a bit. If you have additional problems,
> try something shorter. Glad to hear you are up and running.
>
> 73, John W2FS
>
> ---
> You are currently subscribed to picsig as: toms@inconnect.com
> To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org
>

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

6. [picsig] 380 Hz out of Modem chip?

From: "Bennett, Bruce" <bbennett@Spang.com>
Date: Thu, 3 Jun 1999 07:35:21 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-23995-1999.06.03-06.43.48--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

While adjusting the audio drive level with an oscilloscope and the PIC-E programmed with the diagnostic/checkout code, I noted that occasionally when I flipped the mode switch back to the left that an approximately 380 Hz signal at full amplitude would remain present.

Most of the time, the signal trace would properly go flat. When the mode
switch was to the right, correct two-tone alternation would occur.

Is this a known anomaly? I'm guessing that it really won't interfere with
operation, since the mic keying goes away as it should.

Bruce Bennett KB8ROP
Bruts@alltel.net <mailto:Bruts@alltel.net>

A bus station is where a bus stops.

A train station is where a train stops.

On my desk I have a work station...

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7. [picsig] Re: 380 Hz out of Modem chip?

From: John Hansen <john@hansen.net>
Date: Thu, 03 Jun 1999 08:57:23 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-24005-1999.06.03-08.03.50--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 07:35 AM 6/3/99 -0400, you wrote:
>While adjusting the audio drive level with an oscilloscope and the PIC-E
>programmed with the diagnostic/checkout code, I noted that occasionally when
>I flipped the mode switch back to the left that an approximately 380 Hz
>signal at full amplitude would remain present.
>
>Most of the time, the signal trace would properly go flat. When the mode
>switch was to the right, correct two-tone alternation would occur.
>
>Is this a known anomaly? I'm guessing that it really won't interfere with
>operation, since the mic keying goes away as it should.
>
>
>Bruce Bennett KB8ROP
>Bruts@alltel.net <mailto:Bruts@alltel.net>

It's a feature, not a bug! The actual frequency is 387 Hz. This is the
back channel transmitter. It runs at either 150 bps or 5 bps depending on
the state of M1 and M2. You're right, it won't affect performance, but I
didn't want you to think you had a defective chip.

John, W2FS

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

8. [picsig] Re: 380 Hz out of Modem chip?

From: John Hansen <john@hansen.net>
Date: Thu, 03 Jun 1999 09:24:41 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-24009-1999.06.03-08.30.43--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 08:57 AM 6/3/99 -0400, you wrote:
>
>It's a feature, not a bug! The actual frequency is 387 Hz. This is the
>back channel transmitter. It runs at either 150 bps or 5 bps depending on
>the state of M1 and M2. You're right, it won't affect performance, but I
>didn't want you to think you had a defective chip.
>
>John, W2FS

It's too early in the morning... of course I meant M0 and M1 in the above.

John, W2FS

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

9. [picsig] Re: 380 Hz out of Modem chip?

From: "Wes Johnston" <kd4rdb@bellsouth.net>
Date: Thu, 3 Jun 1999 19:37:06 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-24067-1999.06.03-18.43.52--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Why do you need/want a back channel transmitter?

Wes - kd4rdb@qsl.net
http://www.qsl.net/kd4rdb

Where am I?
http://map.aprs.net/kd4rdb-9
http://map.aprs.net/kd4rdb-10

Hookt on fonix werkt fer me!
-----Original Message-----
From: John Hansen <john@hansen.net>
To: TAPR PIC Development Special Interest Group <picsig@lists.tapr.org>
Date: Thursday, June 03, 1999 8:58 AM
Subject: [picsig] Re: 380 Hz out of Modem chip?

>At 07:35 AM 6/3/99 -0400, you wrote:
>>While adjusting the audio drive level with an oscilloscope and the PIC-E
>>programmed with the diagnostic/checkout code, I noted that occasionally
when
>>I flipped the mode switch back to the left that an approximately 380 Hz
>>signal at full amplitude would remain present.
>>
>>Most of the time, the signal trace would properly go flat. When the mode
>>switch was to the right, correct two-tone alternation would occur.
>>
>>Is this a known anomaly? I'm guessing that it really won't interfere with
>>operation, since the mic keying goes away as it should.
>>
>>
>>Bruce Bennett KB8ROP
>>Bruts@alltel.net <mailto:Bruts@alltel.net>
>
>It's a feature, not a bug! The actual frequency is 387 Hz. This is the
>back channel transmitter. It runs at either 150 bps or 5 bps depending on
>the state of M1 and M2. You're right, it won't affect performance, but I
>didn't want you to think you had a defective chip.
>
>John, W2FS
>
>---
>You are currently subscribed to picsig as: kd4rdb@bellsouth.net
>To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org
>
>

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

10. [picsig] Re: 380 Hz out of Modem chip?

From: John Hansen <john@hansen.net>
Date: Thu, 03 Jun 1999 20:02:03 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-24072-1999.06.03-19.08.15--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 07:37 PM 6/3/99 -0400, you wrote:
>Why do you need/want a back channel transmitter?

For our applications you probably wouldn't. But this chip was originally
designed to work over phone lines. Basically it would allow you to run a
sort of full duplex... even while you were transmitting at 1200 baud, you
could still listen on the "back channel" (albeit at a very slow data rate)
without having to pause your transmission to listen.

John, W2FS

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

11. [picsig] Re: 380 Hz out of Modem chip?

From: "Wes Johnston" <kd4rdb@bellsouth.net>
Date: Thu, 3 Jun 1999 23:43:14 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-24097-1999.06.03-22.49.43--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Well, what it makes me think of is a low data rate DGPS signal in the audio
output of a repeater....
It's a perfect combination.... I use a MIC-e to burst my posit thru a
repeater... and most of the time, I'm in a QSO... so my mic-e (or other
similar device) is listeningto the DGPS data stream... and when It's my turn
to TX, I have a very good fix.

Wes - kd4rdb@qsl.net
http://www.qsl.net/kd4rdb

Where am I?
http://map.aprs.net/kd4rdb-9
http://map.aprs.net/kd4rdb-10

Hookt on fonix werkt fer me!
-----Original Message-----
From: John Hansen <john@hansen.net>
To: TAPR PIC Development Special Interest Group <picsig@lists.tapr.org>
Date: Thursday, June 03, 1999 8:03 PM
Subject: [picsig] Re: 380 Hz out of Modem chip?

>At 07:37 PM 6/3/99 -0400, you wrote:
>>Why do you need/want a back channel transmitter?
>
>For our applications you probably wouldn't. But this chip was originally
>designed to work over phone lines. Basically it would allow you to run a
>sort of full duplex... even while you were transmitting at 1200 baud, you
>could still listen on the "back channel" (albeit at a very slow data rate)
>without having to pause your transmission to listen.
>
>John, W2FS
>
>---
>You are currently subscribed to picsig as: kd4rdb@bellsouth.net
>To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org
>
>

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

12. [picsig] serial.asm on ftp site: question

From: Sam Smith <sam.smith@ece.gatech.edu>
Date: Fri, 04 Jun 1999 11:06:27 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-24172-1999.06.04-10.12.31--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I was attempting to use the serial.asm code for the Pic-e, and was
having trouble receiving characters. I looked at the serialReceiveLoop
closely and it appears to me that it is returning the stop bit and 7
bits, instead of 8 data bits. That last rrf rotates bit 0 of the
received data into the carry, and the stop bit into the MSBit of
serialData. Or maybe not :-)

Has anybody else used this? I tried mailing byon@netcom.com but it
bounced.

thanks,
--
Sam Smith N4MAP
Georgia Tech, ECE 0250, Atlanta, GA USA 30332
http://www.ee.gatech.edu/users/sam
http://www.mindspring.com/~sam.smith

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

13. [picsig] Re: 380 Hz out of Modem chip?

From: Jeff King <jeff@aerodata.net>
Date: Fri, 04 Jun 1999 12:48:46 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-24211-1999.06.04-11.50.28--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Wes Johnston wrote:

> Well, what it makes me think of is a low data rate DGPS signal in the audio
> output of a repeater....
> It's a perfect combination.... I use a MIC-e to burst my posit thru a
> repeater... and most of the time, I'm in a QSO... so my mic-e (or other
> similar device) is listeningto the DGPS data stream... and when It's my turn
> to TX, I have a very good fix.

387 hz would be to noticeable in the audio channel of the repeater (for the
voice
users). A lower frequency would be a better choice for a overlay on a voice
repeater, lets say FSK tones of 100-180hz with a data rate of 100bps. I did
something like this years ago for a project with the NWS on overlaying data
control signals overtop of the voice weather radio announcements (on 162.55).
It works, but in a uncontrolled consumer environment, they questioned it. But in

a COM environment (HAM) it should work fine.

Certainly, using 387hz tone would be a good first step in developing this ap.
Its
easy and quick, then once your ready to deploy switch over to a less objectional

tone pair.

One trick I did in the past with a SSI modem chip was changing the xtal freq to
shift the tone pairs. It *might* be possible to do this with the MX-COM part.
Use the standard 3.58 xtal when using 1200 baud, and switch in a 1mhz rock
to bring the backchannel tone set within the "PL" range. But I haven't yet tried

this with the MX-COM part so it may or may not work.

-Jeff

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

14. [picsig] Re: serial.asm on ftp site: question

From: "Byon Garrabrant" <byon@mail.com>
Date: Fri, 4 Jun 1999 18:55:13 -0700
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-24343-1999.06.04-21.04.42--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On 4 Jun 99, at 11:06, Sam Smith wrote:

> I was attempting to use the serial.asm code for the Pic-e, and was
> having trouble receiving characters. I looked at the serialReceiveLoop
> closely and it appears to me that it is returning the stop bit and 7 bits,
> instead of 8 data bits. That last rrf rotates bit 0 of the received data
> into the carry, and the stop bit into the MSBit of serialData. Or maybe
> not :-)
>
> Has anybody else used this? I tried mailing byon@netcom.com but it
> bounced.
>
> thanks,

Hi Sam,

  I am pretty sure the receive code will receive the full 8 bits. I have used it
in lots of firmware. The general flow is:

wait until in a start bit

```
delay for a 1/3 of a bit, to position in the midle of the start bit

read the start bit
delay a bit

read bit 0 (LSb)
delay a bit

read bit 1
delay a bit

read bit 1
delay a bit

read bit 1
delay a bit

read bit 1
delay a bit

read bit 1
delay a bit

read bit 1
delay a bit

read bit 1
delay a bit

read bit 1
delay a bit

serialReceive
        btfss   SERIAL_IN               ; Check for Start bit
         retlw  0                       ; not receiving now
        movlw   D'9'
        movwf   serialCount             ; gonna read 9 bits
        call    serialDelayThird        ; skip third a bit
serialReceiveLoop
        clrc                            ; assume clear carry
        btfss   SERIAL_IN               ; if receiving 0
         setc                           ; set carry
        rrf     serialData, F           ; roll serialData bits
        call    serialDelay             ; delay
        nop                             ; keep timing w/ transmit
        decfsz  serialCount, F          ; if not complete
         goto   serialReceiveLoop       ; loop back for more
        movfw   serialData              ; return the data
        return
;_____________________________________________________
____

_____________________________________
 Byon Garrabrant  N6BG  byon@mail.com

---
You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org
```

15. [picsig] mx614

From: "Wes Johnston" <kd4rdb@bellsouth.net>
Date: Fri, 4 Jun 1999 22:17:53 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-24347-1999.06.04-21.23.43--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

```
Where is a good source for the mx614 chip?  digikey doesn't seem to have
them.
Thanks!

Wes -  kd4rdb@qsl.net
  http://www.qsl.net/kd4rdb

Where am I?
   http://map.aprs.net/kd4rdb-9
   http://map.aprs.net/kd4rdb-10
```

```
---
You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org
```

16. [picsig] Re: serial.asm on ftp site: question trying again

```
From: "Byon Garrabrant" <byon@mail.com>
Date: Fri, 4 Jun 1999 19:26:01 -0700
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-24350-1999.06.04-21.35.05--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain
```

```
WHOOPS!, TRYING AGAIN!!!

On 4 Jun 99, at 11:06, Sam Smith wrote:

> I was attempting to use the serial.asm code for the Pic-e, and was
> having trouble receiving characters. I looked at the serialReceiveLoop
> closely and it appears to me that it is returning the stop bit and 7 bits,
> instead of 8 data bits. That last rrf rotates bit 0 of the received data
> into the carry, and the stop bit into the MSBit of serialData. Or maybe
> not :-)
>
> Has anybody else used this? I tried mailing byon@netcom.com but it
> bounced.
>
> thanks,
> --
> Sam Smith N4MAP

Hi Sam,

  The code does receive all 8 bits, I've used it in several PIC
projects.  Here is the general code flow:

if not in a start bit, return
delay 1/3 bit time (to be in the middle of the start bit)
read start bit (serialCount = 9)
delay 1 bit time
read bit 0 (LSb) (serialCount = 8)
delay 1 bit time
read bit 1 (serialCount = 7)
delay 1 bit time
read bit 2 (serialCount = 6)
delay 1 bit time
read bit 3 (serialCount = 5)
delay 1 bit time
read bit 4 (serialCount = 4)
delay 1 bit time
read bit 5 (serialCount = 3)
delay 1 bit time
read bit 6 (serialCount = 2)
delay 1 bit time
read bit 7 (serialCount = 1)
delay 1 bit time
exit the loop
(we are now in mid stop bit)
return

The stop bit never gets read. Perhaps you didn't count the reading
of the start bit (as I did the first time I typed this eMail :)
The start bit is read and shifted outto the carry at the end (and
ignored)  There are 9 loops over the read bit/delay bit code.

Hope this clears up your understanding of the code.  As to why it
is not receiving, The code is written to interface directly to a RS232
device, even though it is putting out TTL levels, so make sure you
are not
using a level converter (MAX232, etc.) Also, make sure the baud
rate is
correct on the PIC (DELAY_TIME) and on the computer.  Lastly,
computers
using RS232 levels could consider the TTL ground voltage as
invlaid, and
not decode.  While most all computers have have no problem with
this, is
does break the spec.

Here is the code for those curious.
```

```
serialReceive
 btfss  SERIAL_IN               ; Check for Start bit
  retlw 0                       ; not receiving now
 movlw  D'9'
 movwf  serialCount             ; gonna read 9 bits
 call   serialDelayThird        ; skip third a bit
serialReceiveLoop
 clrc                           ; assume clear carry
 btfss  SERIAL_IN               ; if receiving 0
  setc                          ; set carry
 rrf    serialData, F           ; roll serialData bits
 call   serialDelay             ; delay
 nop                            ; keep timing w/ transmit
 decfsz serialCount, F          ; if not complete
  goto  serialReceiveLoop       ; loop back for more
 movfw  serialData              ; return the data
 return


Byon

PS: serial.asm (from PICE090.ZIP) does have byon@mail.com as
my eMail address,  I haven't used byon@netcom.com for a while.
Where did you find that address? I'd like to go update it?
_____________________________________
 Byon Garrabrant  N6BG  byon@mail.com

---
You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org
```

17. [picsig] Re: mx614

From: Greg Jones <wd5ivd@tapr.org>
Date: Fri, 4 Jun 1999 22:12:24 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-24369-1999.06.04-22.21.46--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

```
http://www.tapr.org/tapr/html/firmware.html

Cheers - Greg

>Where is a good source for the mx614 chip?  digikey doesn't seem to have
>them.
>Thanks!
>
>Wes -  kd4rdb@qsl.net
>  http://www.qsl.net/kd4rdb
>
>Where am I?
>   http://map.aprs.net/kd4rdb-9
>   http://map.aprs.net/kd4rdb-10
>
>
>
>
>---
>You are currently subscribed to picsig as: wd5ivd@tapr.org
>To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

-----
Greg Jones, WD5IVD                Austin, Texas
wd5ivd@tapr.org      http://www.tapr.org/~wd5ivd



---
You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org
```

18. [picsig] Icon selection

From: "Mike Berg" <mikeberg@midstate.tds.net>
Date: Sat, 5 Jun 1999 17:54:29 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-24470-1999.06.05-18.00.23--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I'm looking for a table or cross reference that will tell me what APRS icon
my PIC-E is transmitting.
73 Mike N0QBH

19. [picsig] Re: serial.asm on ftp site: question trying again

From: Sam Smith <sam.smith@mindspring.com>
Date: Sat, 05 Jun 1999 21:10:43 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-24483-1999.06.05-20.16.40--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Thanks, Byon, I found my problem. The serial.asm I used was from the u2k
directory on the tapr ftp site. Looks like that's a different version. Anyway it
has extra calls to serialDelay which I thought were supposed to be there. It
also has your old email address at the top.

Once I got rid of the extra delay it works great. I'm successfully decoding
$GPGGA sentences now.

Now if I can figure out how to transmit them... I'm on to packet.asm next.
Having fun so far!

Sam N4MAP

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

20. [picsig] Re: Icon selection

From: sdimse <k4hg@tapr.org>
Date: Sat, 5 Jun 1999 21:28:41 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-24485-1999.06.05-20.35.15--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On 6/5/99 6:54 PM Mike Berg (mikeberg@midstate.tds.net) wrote:

>I'm looking for a table or cross reference that will tell me what APRS icon
>my PIC-E is transmitting.

It is in the docs for every version of APRSdos, called symbols.txt. There
is an old, online one at:

http://www.aprs.net/vm/dos/SYMBOLS.HTM

Steve K4HG

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

21. [picsig] Re: serial.asm on ftp site: question trying again

From: Steve Dimse K4HG <k4hg@tapr.org>
Date: Sat, 5 Jun 1999 21:29:04 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-24486-1999.06.05-20.35.41--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On 6/5/99 9:10 PM Sam Smith (sam.smith@mindspring.com) wrote:

>Thanks, Byon, I found my problem. The serial.asm I used was from the u2k
>directory on the tapr ftp site. Looks like that's a different version.
>Anyway it
>has extra calls to serialDelay which I thought were supposed to be there. It
>also has your old email address at the top.
>
>Once I got rid of the extra delay it works great. I'm successfully decoding
>$GPGGA sentences now.
>
>Now if I can figure out how to transmit them... I'm on to packet.asm next.
>Having fun so far!
>
Yes, be careful about mixing files from different applications. In this
case, my weather application uses 2400 baud for the Peet Wx station,
while the Mic-E emulators use 4800 baud for the NMEA interface.

Steve K4HG

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

22. [picsig] re:APRS symbols

From: "Mike Berg" <mikeberg@midstate.tds.net>
Date: Sun, 6 Jun 1999 06:28:44 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-24569-1999.06.06-06.34.37--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

OK, I've seen the tables. How do they cross to the numerical entry used
in the gps-2-a programmer? The default is 62 which makes my symbol
a bicycle. I'd settle for a car :)
73 Mike   N0QBH

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

23. [picsig] re:APRS symbols

From: John Hansen <john@hansen.net>
Date: Sun, 06 Jun 1999 08:24:59 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-24571-1999.06.06-07.31.13--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 06:28 AM 6/6/99 -0500, you wrote:
>OK, I've seen the tables. How do they cross to the numerical entry used
>in the gps-2-a programmer? The default is 62 which makes my symbol
>a bicycle. I'd settle for a car :)
>73 Mike   N0QBH

You can use an ascii table to look up the value (in hexadecimal) of the
character you want. These tables are available in a lot of places for example:

http://www.rzs-hm.si/C_ref/C/FUNCTIONS/hex_tab.html

John

It appears that a car is 3E. I apologize for not making that the default.

John

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

24. [picsig] ASM prorgam functions

From: Mike Berg <mikeberg@midstate.tds.net>
Date: Tue, 08 Jun 1999 20:45:25 -0700
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-25134-1999.06.08-20.55.28--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I was looking through Byon and Steve's wx station asm code and noticed
some instructions I've never seen before. I learned what PIC
programming
I know from David Benson's books on PIC (Easy Pic'in / Pic'in up the
pace) and the MPASM user guide. Tho I can sort of infer what they do,
I'd like to get the scoop on the following.

```
        skpz    skpnz   skpc    skpnc

        clrc    setc    movfw
```

Where does the following line point to?

```
        goto    $-1
```

What does the decimal point signify?

```
        movlw   .60
        addlw   .246
```

In the options section I noticed the define table (dt) has math
operands. We can do that, huh?

Please excuse my ignorance, I'm learning :)
73 Mike N0QBH

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

25. [picsig] Re: ASM prorgam functions

From: Steve Dimse <sdimse@netrox.net>
Date: Tue, 8 Jun 1999 23:32:06 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-25153-1999.06.08-22.38.39--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On 6/8/99 11:45 PM Mike Berg (mikeberg@midstate.tds.net) wrote:

>I was looking through Byon and Steve's wx station asm code and noticed
>some instructions I've never seen before. I learned what PIC
>programming
>I know from David Benson's books on PIC (Easy Pic'in / Pic'in up the
>pace) and the MPASM user guide. Tho I can sort of infer what they do,
>I'd like to get the scoop on the following.
>
>   skpz   skpnz   skpc   skpnc
>
>   clrc   setc   movfw
>
These are macros that make the code easier to read (and to type). Sure,
you can say

     btfss   STATUS,Z ; read as "bit test file skip-if set
status-register zero-flag"

but this line accomplishes the same thing

     skpz   ; read as "skip-if zero"

>Where does the following line point to?
>
>   goto $-1
>
$ is the program counter, so it points to the line before the pc. Since
the pc is incremented as soon as an instruction is loaded, this command
points to itself, AKA an endless loop.

>What does the decimal point signify?
>
>   movlw   .60
>   addlw   .246
>
decimal number. The default radix is usually hex, but if you need a
decimal number, you don't need to calculate it, just prefix it with the
decimal. D'60' will do the same thing...

>In the options section I noticed the define table (dt) has math
>operands. We can do that, huh?
>
yup.

Steve K4HG

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

26. [picsig] Re: ASM prorgam functions

From: "Byon Garrabrant" <byon@mail.com>
Date: Tue, 8 Jun 1999 20:49:51 -0700
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-25156-1999.06.08-22.59.18--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On 8 Jun 99, at 23:32, Steve Dimse wrote:

> On 6/8/99 11:45 PM Mike Berg (mikeberg@midstate.tds.net) wrote:

> >Where does the following line point to?
> >
> >   goto $-1
> >
> $ is the program counter, so it points to the line before the pc. Since
> the pc is incremented as soon as an instruction is loaded, this command
> points to itself, AKA an endless loop.

Actually, if memory serves, $ is not really the program counter, but
 the address of the current line, so goto $ is goto myself (endless
loop). goto $-1 is jump back one line, as in the following delay loop
  decfsz temp, F
    goto $-1

and goto $+1 is skip the next instruction, tho I can't think of a
useful purpose.

Byon

_____
 Byon Garrabrant N6BG byon@mail.com

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

27. [picsig] Re: ASM prorgam functions

From: Mike Nowlin <mike@argos.org>
Date: Wed, 9 Jun 1999 00:35:17 -0400 (EDT)
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-25162-1999.06.08-23.36.16--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>
> Actually, if memory serves, $ is not really the program counter, but
> the address of the current line, so goto $ is goto myself (endless
> loop). goto $-1 is jump back one line, as in the following delay loop
>   decfsz temp, F
>   goto $-1

For those of us in the "intermediate" stage of learning multiple
processors and assemblers, $ is assembler-dependant -- some of them use
PC, and some use source instruction line number... Just don't get it in
your head that $ is one thing or another when you switch to an 8051
assembler, for example....

--Mike - N8NVW

(BTW: this note is from experience.... :))

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

28. [picsig] Radio Interfacing

From: "Sissom, Jay D" <jsissom@indiana.edu>
Date: Wed, 9 Jun 1999 21:19:10 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-25341-1999.06.09-21.25.30--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hello,

I built my PIC-E and everything seems to work fine except the PTT line. I
have a Yaesu FT-530 radio. I used the same components I used for
interfacing with my TNC and it won't work with the PIC-E. If I manually
press the PTT, I can hear the tones on another radio. If I turn the squelch
down on the radio, the Active LED lights, so I'm pretty sure the audio is
correct.

Here is the diagram I used for my TNC.

http://www.packetradio.com/trad/irsy_kpc.gif

On the PIC-E, I used Figure 3 in the PIC-E manual and used a .1uF capacitor
for the microphone audio.

Has anyone done this? By the way, I also have a Yaesu FT727R radio, but

it's PTT doesn't work either.

Thanks
Jay
KA9OKT

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

29. [picsig] Re: ASM prorgam functions

From: "Byon Garrabrant" <byon@mail.com>
Date: Wed, 9 Jun 1999 23:21:14 -0700
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-25375-1999.06.10-01.30.48--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On 8 Jun 99, at 20:45, Mike Berg wrote:

> Tho I can sort of infer what they do, I'd like
> to get the scoop on the following.
>
> skpz skpnz   skpc   skpnc
>
> clrc setc   movfw
>

Check out the MPASM docs (DS33014F) page 134-135 under
Special Instruction Mnemonics. It lists all of these, along with thier
equivalent operation(s) :

For example:

addcf   f,d   =   btfsc   3,0 & incf   f,d

One word of warning, beware the special instruction that map to
two instruction. Not only does it make it difficult to count
instructions for timing, you can get incorrect code, for example:

```
btfsc temp2, 0
 addcf  temp, F
```

does not do what it seems it should!

Byon
_____
 Byon Garrabrant N6BG byon@mail.com

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

30. [picsig] PTT circuit

From: "Sissom, Jay D" <jsissom@indiana.edu>
Date: Thu, 10 Jun 1999 20:29:00 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-25467-1999.06.10-20.35.26--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I'm still learning, so please be patient. No matter what I do, I can't get
the PTT circuit to make my FT-530 HT transmit.

Can someone explain the circuit connected to RA2 of the PIC? The D5 PTT LED
works properly and the collector of Q1 seems to have the right voltages
(4.5V when D5 is off and 0 when D5 is on), but the voltage doesn't change
much on J3-14.

Thanks & 73's
Jay KA9OKT

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

31. [picsig] Re: Radio Interfacing

From: Eric Cook <kc7ryp@yahoo.com>
Date: Thu, 10 Jun 1999 19:59:19 -0700 (PDT)
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>

Cc: jsissom@indiana.edu
Message-ID: <LYR6890-25502-1999.06.10-22.03.16--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi Jay,

The circuit you show in the link is already present on
the PIC-E board. Run your mic input directly to the
PIC-E. Then remove JP3 and short the J4 and J5 pins
that have your mic audio on them.

Can someone else confirm this for me? I have the eval
board that had some problems with J4, J5 and J6. I'm
just looking at the revision 2 schematic.

Regards,

Eric
KC7RYP

--- "Sissom, Jay D" <jsissom@indiana.edu> wrote:
> Hello,
>
> I built my PIC-E and everything seems to work fine
> except the PTT line. I
> have a Yaesu FT-530 radio. I used the same
> components I used for
> interfacing with my TNC and it won't work with the
> PIC-E. If I manually
> press the PTT, I can hear the tones on another
> radio. If I turn the squelch
> down on the radio, the Active LED lights, so I'm
> pretty sure the audio is
> correct.
>
> Here is the diagram I used for my TNC.
>
> http://www.packetradio.com/trad/irsy_kpc.gif
>
> On the PIC-E, I used Figure 3 in the PIC-E manual
> and used a .1uF capacitor
> for the microphone audio.
>
> Has anyone done this? By the way, I also have a
> Yaesu FT727R radio, but
> it's PTT doesn't work either.
>
> Thanks
> Jay
> KA9OKT
>
> ---
> You are currently subscribed to picsig as:
> kc7ryp@yahoo.com
> To unsubscribe send a blank email to
> leave-picsig-6890E@lists.tapr.org
>
>

_____
Do You Yahoo!?
Get your free @yahoo.com address at http://mail.yahoo.com

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

32. [picsig] Re: Radio Interfacing

From: "Sissom, Jay D" <jsissom@indiana.edu>
Date: Fri, 11 Jun 1999 08:46:24 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-25546-1999.06.11-08.52.51--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>From what I could see, the resistor is there (if you remove JP3) but the
capacitor isn't. I tried it using the onboard resistor with no luck. Then
I built an adapter so I could use the exact same cable I used for my TNC.

This cable has the resistor and capacitor and I know it's wired properly
because my radio works with my TNC. It still doesn't work (yes, I used this
with JP3 installed). Both the microphone and speaker audio lines work, but
PTT doesn't.

I'm afraid there is a bad part on my board, but don't know enough about how
the circuit works to figure out which one.

Thanks
Jay KA9OKT
-----Original Message-----
From: Eric Cook [mailto:kc7ryp@yahoo.com]
Sent: Thursday, June 10, 1999 9:59 PM
To: TAPR PIC Development Special Interest Group
Cc: jsissom@indiana.edu
Subject: [picsig] Re: Radio Interfacing

Hi Jay,

The circuit you show in the link is already present on
the PIC-E board. Run your mic input directly to the
PIC-E. Then remove JP3 and short the J4 and J5 pins
that have your mic audio on them.

Can someone else confirm this for me? I have the eval
board that had some problems with J4, J5 and J6. I'm
just looking at the revision 2 schematic.

Regards,

Eric
KC7RYP

--- "Sissom, Jay D" <jsissom@indiana.edu> wrote:
> Hello,
>
> I built my PIC-E and everything seems to work fine
> except the PTT line. I
> have a Yaesu FT-530 radio. I used the same
> components I used for
> interfacing with my TNC and it won't work with the
> PIC-E. If I manually
> press the PTT, I can hear the tones on another
> radio. If I turn the squelch
> down on the radio, the Active LED lights, so I'm
> pretty sure the audio is
> correct.
>
> Here is the diagram I used for my TNC.
>
> http://www.packetradio.com/trad/irsy_kpc.gif
>
> On the PIC-E, I used Figure 3 in the PIC-E manual
> and used a .1uF capacitor
> for the microphone audio.
>
> Has anyone done this? By the way, I also have a
> Yaesu FT727R radio, but
> it's PTT doesn't work either.
>
> Thanks
> Jay
> KA9OKT
>
> ---
> You are currently subscribed to picsig as:
> kc7ryp@yahoo.com
> To unsubscribe send a blank email to
> leave-picsig-6890E@lists.tapr.org
>
>

_____
Do You Yahoo!?
Get your free @yahoo.com address at http://mail.yahoo.com

You are currently subscribed to picsig as: jsissom@exchange.indiana.edu
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---
You are currently subscribed to picsig as: lyris.picsig@tapr.org
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33. [picsig] PIC-E at 300 Baud

From: "Thomas M. Schaefer" <toms@inconnect.com>
Date: Fri, 11 Jun 1999 13:48:37 -0600
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-25596-1999.06.11-14.54.48--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hello everyone...

Does anyone have any suggestions on the possibilities of adapting the PIC-E design to HF APRS? I could use another PIC as the MODEM, but I thought I would ask if a similar chip to the MX614 is available for 300 baud. I did not see anything in the documentation.

Tom

34. [picsig] Re: PIC-E at 300 Baud

From: "Jeff King" <jeff@aerodata.net>
Date: Fri, 11 Jun 1999 15:33:50 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-25602-1999.06.11-15.39.44--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/enriched

"Thomas M. Schaefer" <<toms@inconnect.com> said:

>Hello everyone...<FontFamily><param>Times New
Roman</param><bigger><FontFamily><param>Arial</param><smaller>Does anyone have any suggestions on the
>possibilities of adapting the PIC-E design to HF APRS? I could
>use another PIC as the MODEM, but I thought I would ask if a
>similar chip to the MX614 is available for 300 baud. I did not see
>anything in the documentation. <FontFamily><param>Times New
Roman</param><bigger><FontFamily><param>Arial</param><smaller>Tom

<FontFamily><param>Times New Roman</param><bigger>Look for a Bell 103 chip.... any number of them out there. Off the

top of my head (and these may be discontinued) the AMD "world chip" 7910 would do both 103 and 202 tones. Also, TI made some 300 baud FSK chips at one time.

In a pinch, you always can use the XXAR 2206 and 2211 (I think those are the chip numbers). These are the parts in the original TNC2 as well as the present day MFJ 1270. They can tune to the 300 baud FSK tones.

I'd assume changing the software would just be a matter of tweaking some timing values.

Good luck

Jeff King wb8wka

<nofill>

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

35. [picsig] New Version of GPS-E-2

From: John Hansen <john@hansen.net>
Date: Wed, 16 Jun 1999 23:58:19 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>

Message-ID: <LYR6890-26234-1999.06.16-23.05.48--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi:

Some weeks (or was it months?) ago it was reported to me that GPS-E-2 was not working reliably with Kantronic's TNC's. The Kantronics TNC's simply weren't reliably decoding PIC-E packets sent with my firmware. I spent some time trying to debug this problem but it was difficult because I didn't own a Kantronics TNC myself. At a Hamfest I attended the end of last month I found a KPC-3 for $50 and bought it. I was then able to confirm that there in fact was a problem and that Kantronics equipment did not decode my packets very well, if at all. This was puzzling to me since my MFJ TNC decoded them fine.

In the intervening weeks I've spent an awful lot of time trying to find a solution to this problem. I assumed that it stemmed from the timing tolerances of the Kantronics being tighter than the MFJ. As a result I've spent massive amounts of time trying to "tune" the timing algorithms in the gpse.hex file. As it turns out, I was barking up the wrong tree. Tonight, for some odd reason (I can't even remember why) I increased the number of flags at the end of the packet from 1 to 2. The AX.25 docs say 1 is fine and, in fact, you can even end one packet and start the next with the same flag. This may be true, but all I know is that when I upped the flag count from 1 to 2, I started getting rock solid copy on the KPC-3. Rather than pursue the reason for this further, I've decided to simply declare victory and leave the 2nd flag in there.

I mention this here since many of you are developing your own firmware for the PIC-E, you might want to seriously consider ending each packet with 2 flags rather than 1.

If you have been using the GPS-E-2 firmware, please download the GPS-E-2b.zip file. It contains the updated software. The only other change that I've made is to alter the default icon from a bicycle (62h) to a car (3Eh). Drop me a note and let me know how this round of software works for you.

Thanks and sorry this fix took so long.

John, W2FS

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

36. [picsig] Re: New Version of GPS-E-2

From: Tim Salo <salo@networkcs.com>
Date: Wed, 16 Jun 1999 23:15:16 -0500 (CDT)
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-26238-1999.06.16-23.21.55--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> Date: Wed, 16 Jun 1999 23:58:19 -0400
> To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
> From: John Hansen <john@hansen.net>
> Subject: [picsig] New Version of GPS-E-2
> [...]
> The AX.25 docs say 1 is fine
> and, in fact, you can even end one packet and start the next with the same
> flag. This may be true, but all I know is that when I upped the flag count
> from 1 to 2, I started getting rock solid copy on the KPC-3.
> [...]

It sounds like a bug report to Kantronics might also be in order.

-tjs

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

37. [picsig] Re: New Version of GPS-E-2

From: "Hwang, Wen-Ruey" <HWANGW@timken.com>
Date: Thu, 17 Jun 1999 08:18:40 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-26264-1999.06.17-07.25.29--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Can someone tell me where I can order the GPS-E-2 stuff?

Thanks,

Wen-Ruey

> -----Original Message-----
> From: Tim Salo [SMTP:salo@networkcs.com]
> Sent: Thursday, June 17, 1999 12:15 AM
> To: TAPR PIC Development Special Interest Group
> Subject: [picsig] Re: New Version of GPS-E-2
>
> > Date: Wed, 16 Jun 1999 23:58:19 -0400
> > To: "TAPR PIC Development Special Interest Group"
> <picsig@lists.tapr.org>
> > From: John Hansen <john@hansen.net>
> > Subject: [picsig] New Version of GPS-E-2
> >   [...]
> > The AX.25 docs say 1 is fine
> > and, in fact, you can even end one packet and start the next with the
> same
> > flag. This may be true, but all I know is that when I upped the flag
> count
> > from 1 to 2, I started getting rock solid copy on the KPC-3.
> >   [...]
>
> It sounds like a bug report to Kantronics might also be in order.
>
> -tjs
>
> ---
> You are currently subscribed to picsig as: hwangw@timken.com
> To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

---
You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

38. [picsig] Re: New Version of GPS-E-2

From: Steve Dimse <sdimse@netrox.net>
Date: Thu, 17 Jun 1999 08:39:59 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-26265-1999.06.17-07.48.30--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On 6/17/99 8:18 AM Hwang, Wen-Ruey (HWANGW@timken.com) wrote:

>Can someone tell me where I can order the GPS-E-2 stuff?
>
The code is free from the picsig web site

ftp://ftp.tapr.org/picsig/software

The Pic-E itself can be ordered from the TAPR web site

http://www.tapr.org/tapr/html/Fpice.html

Steve K4HG

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

39. [picsig] Re: New Version of GPS-E-2

From: John Hansen <john@hansen.net>
Date: Thu, 17 Jun 1999 09:36:08 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-26267-1999.06.17-08.43.00--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 08:39 AM 6/17/99 -0400, you wrote:
>On 6/17/99 8:18 AM Hwang, Wen-Ruey (HWANGW@timken.com) wrote:
>
>>Can someone tell me where I can order the GPS-E-2 stuff?
>>
>The code is free from the picsig web site

But please wait to download it until the version B stuff is posted in the

download area. Should be within a day.

John, W2FS

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

40. [picsig] Re: New Version of GPS-E-2

From: "Steven R. Bible" <srbible@gate.net>
Date: Thu, 17 Jun 1999 17:29:12 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-26348-1999.06.17-16.35.55--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 09:36 AM 6/17/99 -0400, you wrote:
>At 08:39 AM 6/17/99 -0400, you wrote:
>>On 6/17/99 8:18 AM Hwang, Wen-Ruey (HWANGW@timken.com) wrote:
>>
>>>Can someone tell me where I can order the GPS-E-2 stuff?
>>>
>>The code is free from the picsig web site
>
>
>But please wait to download it until the version B stuff is posted in the
>download area. Should be within a day.

gps-e-2b.txt and gps-e-2b.zip have been placed in the software directory.

The fully qualified path is

  ftp://ftp.tapr.org/picsig/sofware/

73,

- Steve, N7HPR
  n7hpr@tapr.org
  n7hpr@amsat.org

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

41. [picsig] Microchip seminar

From: Steve Dimse K4HG <k4hg@tapr.org>
Date: Sun, 20 Jun 1999 05:01:39 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-26677-1999.06.20-04.08.40--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I wrote this for the PSR, but it is worth posting here too...

On June 15, Steve Bible (N7HPR) and I attended the Advanced Microchip
Seminar in Orlando. John Hansen also attended one the week before up in
his neck of the woods. For anyone interested in using the PIC processors
from Microship, these seminars are well worth it. First of all, the food
is great! Don't make the mistake of pigging out the night before, and
then eating the lousy hotel freebie breakfast as Steve and I did, instead
go hungry!

The topics covered include the new features in the latest chips (they
make you drool over chips you can't get yet), operation of the high end
emulators (they make you drool over $2,000 tools you can't afford yet),
and the new low end In-Circuit Debugger (ICD) (they make you drool over
the tools you ordered but they haven't shipped yet). Good thing there is
a lot of food to soak up all that saliva...oops, I guess I already
mentioned the food. They were also giving away a nice little prototype
board for the 16F8xx series, unfortunately without the chips we've all
been dying for (but at least the 16F877 is finally available from
DigiKey).

The ICD deserves special mention. This is something which is going to be
very useful to us in future projects. It uses some special circuitry
built into the new flash-programmable PIC's, the 16F873, 16F874, 16F876,
and 16F877. The ICD connects to your project's board via a modular phone
cable, which provides power for the ICD, as well as serial communications
with the debugging and in-circuit programming pins on the PIC. The ICD is

in bidirectional communication with the PIC chip, and uses a single
hardware breakpoint register on these new chips. While this is not as
flexible as the $2000 ICE products, it is a vast improvement over what we
have now. You lose a couple of pins and 256 bytes of program memory,
which is a small price to pay. Expect to see the ICD socket in most
future TAPR projects.

If you get the chance to go to a Microchip seminar in your area, we
highly recommend it. These guys are really looking to sell some chips,
and they don't even care if you are small time like us. The seminar is
more than reasonably priced at $50. If you buy one of their development
tools, the PicStart programmer for $150, or the In-Circuit Debugger for
$130, the seminar is free. The schedule and registration are available on
the web site. The summer round is almost over, but pay close attention to
the Microchip web site (http://www.microchip.com) for the next round.

Steve K4HG

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42. [picsig] REQUEST FOR HOME BREW PIC PROGRAMMER

From: "Neil Thomas" <meltek_n@global.co.za>
Date: Sun, 20 Jun 1999 22:33:52 +0200
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-26783-1999.06.20-23.53.54--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi from Port Elizabeth,   South Africa.

Our Port Elizabeth Amateur Radio Society (PEARS) intend starting a PIC user
group.   We are total novices and are looking for circuit diagrams to
construct a PIC programmer.   Please forward any guidelines etc.

Thank you for the opportunity to take part in the development forum.

73

Neil Thomas
E-mail: meltek_n@global.co.za

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

43. [picsig] GPS-E ver B not working

From: "David Lee" <seatools@home.com>
Date: Sun, 20 Jun 1999 23:07:04 -0700
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-26802-1999.06.21-01.13.34--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Have had GPS-E working (but not decoding on nearby KPC-3 !). Tried new
version B and not even getting into
local digi's. Can hear packets being transmitted, but won't decode on
otherwise working KPC-3. Packets seem
noticably longer (2 -3 x??) with new ver B. Back to orig. ver - works into
local network, but still no copy on
nearby receiver with KPC-3.

Ideas??

Dave W6ZL

seatools@home.com

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

44. [picsig] Re: GPS-E ver B not working

From: John Hansen <john@hansen.net>
Date: Mon, 21 Jun 1999 07:19:05 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-26815-1999.06.21-06.27.05--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 11:07 PM 6/20/99 -0700, you wrote:
>Have had GPS-E working (but not decoding on nearby KPC-3 !). Tried new
>version B and not even getting into
>local digi's. Can hear packets being transmitted, but won't decode on
>otherwise working KPC-3. Packets seem
>noticably longer (2 -3 x??) with new ver B. Back to orig. ver - works into
>local network, but still no copy on
>nearby receiver with KPC-3.
>
>Ideas??
>
>Dave W6ZL

The packets should not be noticably longer. Let me check this morning and
make certain that the right gpse.hex file got into the zip file.   There
are a bunch of them running around here. I'll let you know this morning.
Thanks for the report.

John, W2FS

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45. [picsig] Re: GPS-E ver B not working

From: John Hansen <john@hansen.net>
Date: Mon, 21 Jun 1999 09:05:08 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-26830-1999.06.21-08.13.00--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>Packets seem
>noticably longer (2 -3 x??) with new ver B. Back to orig. ver - works into
>local network, but still no copy on
>nearby receiver with KPC-3.
>
>Ideas??

I downloaded a clean version from TAPR and tried it out here and it seems
to be working fine. My best guess at this point is that the chip didn't
program properly. The only changes between version A and version B were
the addition of a second flag at the end of the packet and a change of the
default icon. Thus the transmission shouldn't be any longer (well, only
6.7 milliseconds longer).   I don't think this could be it, but when you
get a chance send me a list of the items you changed from the defaults in
the dialog box and I'll try programming those defaults here to see if they
worked.

You also might try a different programming method. When I did it here I
used the programming feature of GPS-E-2. If that's what you did too, try
doing it with a different PIC Programmer, like PicProg or PIX, different
computers seem to respond differently.

BTW, one other thing I did try was both the CD software and CD internal
parameters on the KPC-3. Both seemed to work fine.

Anyway, the key clue here seems to me that it's transmitting a packet that
is way too long. That indicates there is something wrong with the way it
programmed.

Let me know how this works out for you.

73, John W2FS

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46. [picsig] GPS-E ver B not working

From: "David Lee" <seatools@home.com>
Date: Mon, 21 Jun 1999 22:14:18 -0700
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-26933-1999.06.22-00.20.49--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

John,

Thanks for your help. I'll try a "clean" download from TAPR. I am not
changing much

in the parameters, just my callsign and am using your .exe to load the
proram, although I have
also tried loading the saved output.hex with PIXIE under DOS. Ver A loads
fine either
way. I was looking at your source C code (just looking, don't have the
compiler)
and noticed where you put in the extra flag, also noticed a couple changes
to a
timing value and one other spot where a line of code was commented out.

I'll give it another shot and see what happens.

Dave W6ZL

seatools@home.com

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

47. [picsig] Re: GPS-E ver B not working

From: John Hansen <john@hansen.net>
Date: Tue, 22 Jun 1999 08:48:48 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-26946-1999.06.22-07.56.00--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 10:14 PM 6/21/99 -0700, you wrote:
>John,
>
>Thanks for your help. I'll try a "clean" download from TAPR. I am not
>changing much
>in the parameters, just my callsign and am using your .exe to load the
>proram, although I have
>also tried loading the saved output.hex with PIXIE under DOS. Ver A loads
>fine either
>way. I was looking at your source C code (just looking, don't have the
>compiler)
>and noticed where you put in the extra flag, also noticed a couple changes
>to a
>timing value and one other spot where a line of code was commented out.
>
>I'll give it another shot and see what happens.
>
>Dave W6ZL

My guess is that the problem is not that the code that you've downloaded
from TAPR is corrupted (though that is possible) but rather that it isn't
loading properly into the PIC. We've had problems with incompatibilities
before between particular computers and PIC programming software. No, I
don't know why the previous version seems to load fine, but we've seen
stranger things.

Anyway, using GPS-E-2 to load the code and using PIXIE to load the code are
essentially the same thing, since all PIXIE is is the PIC programming code
stripped off of GPS-E-2. Thus, if you have problems the next time around,
I would consider either trying a different programmer (like PicProg or PIX)
or trying it on a different computer.

I've personally seen a number of cases where the programmer reported that
the load went ok, but the chip did not perform as if it was loaded
correctly. I've seen it happen with both my programming software and with
others.

The other changes you saw in the code should not affect the performance. I
made a couple changes suggested by Jeff King to reduce the code size so
there would be enough room for recent bug fixes.

If this doesn't fix it, I'd suggest letting me send you a programmed F84 to
try in your set up to see if that appears to be working properly. Let me
know if you need to try this.

John, W2FS

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48. [picsig] PIC-E upgrade

From: Bill Vodall <wa7nwp@bigsky.com>
Date: Tue, 22 Jun 1999 15:41:10 -0700
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-27007-1999.06.22-17.47.25--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hurray... The lights are blinking. I plan to load the
GPS software tonight. Great little kit!

I have the preliminary version. Is there a list
of mods besides replacing the 78L05 that went in to the
production version?

Thanks,
Bill - WA7NWP

Bill Vodall   425-869-2320 Fax: 425-881-1008
mailto:bvodall@hyperlynx.com   http://www.hyperlynx.com
Signal Integrity and EMC Analysis Software for High-Speed PCB Design
----

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49. [picsig] Re: PIC-E upgrade

From: "Steven R. Bible" <n7hpr@tapr.org>
Date: Tue, 22 Jun 1999 19:09:13 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-27013-1999.06.22-18.15.54--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 03:41 PM 6/22/99 -0700, you wrote:
>
>Hurray... The lights are blinking. I plan to load the
>GPS software tonight. Great little kit!
>
>I have the preliminary version. Is there a list
>of mods besides replacing the 78L05 that went in to the
>production version?

Bill, I'm way overdue in putting out a field change document.

Here's a summary of changes. Refer to Rev. 2 schematic available in the
revised PIC-E Assembly Manual at

    ftp://ftp.tapr.org/picsig/docs/

- Changed U2 from 78L05 to 7805 for more current capacity.
- Added D11 for reverse polarity protection.
- Added R21 and C8 to provide pull-up voltage on PTT in line and filtering.
- Added D10 to prevent keying of transmitter when PIC-E turned off.
- Added R20, series resistance to get smoother range out of V1.
- Fixed J4/J5/J6 left/center/right error. Now the production PIC-E uses
  all 2-pin jumpers. The eval unit needed one 3-pin jumper for PTT.
- Changed mini-slide switches to mini-toggle switches.
- Changed coaxial power connector to smaller center pin.

That's about it. The PIC-E design team is open for more suggestions. Now
that Microchip has released their new line of flash components, we will
look towards a PIC-E-II design. But first we need your feedback on the
eval and production PIC-E's.

The PIC-E is fully programmable. If you wish to contibute a program, you
may upload it to the TAPR ftp site at

   ftp://ftp.tapr.org/picsig/upload/

Please read the upload instructions in the directory.

73,

- Steve, N7HPR
  n7hpr@tapr.org
  n7hpr@amsat.org

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

50. [picsig] Re: REQUEST FOR HOME BREW PIC PROGRAMMER

From: "Byon Garrabrant" <byon@mail.com>
Date: Tue, 22 Jun 1999 22:48:17 -0700
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Cc: meltek_n@global.co.za
Message-ID: <LYR6890-27077-1999.06.23-01.00.29--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On 20 Jun 99, at 22:33, Neil Thomas wrote:

> Our Port Elizabeth Amateur Radio Society (PEARS) intend starting a PIC
> user group. We are total novices and are looking for circuit diagrams to
> construct a PIC programmer. Please forward any guidelines etc.

I have been playing around in designing home brew PIC
programmers for some time. In the process, I have gathered lots of
images of schematics for various serial and parallel PIC
programmer hardware designs (typically for 16F84). I found these
useful in learning how to build a PIC programmer, and others may
too. So, I have uploaded them to
http://www.byonics.com/pic/picprogimg.zip (464K).

The zip file mostly only contains schematic images. I still have the
documentation for most of these on my computer, so if any of the
schematics interest you, and you are not able to find them in
greater detail on the net, let me know and I'll send you what I have.

FWIW, my first PIC programmer was a David Tait style one, which
I modified (both hardware and software) to allow me to also use it
to power and run my projects. This allows me to erase, program,
run and stop the device, in circuit, all from the keyboard! Very
handy, and leads to rapid turn around time!

Byon

_____
 Byon Garrabrant N6BG byon@mail.com

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

51. [picsig] Oh Where, oh where has my ICD gone?

From: John Hansen <john@hansen.net>
Date: Wed, 23 Jun 1999 13:53:57 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-27121-1999.06.23-13.02.33--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

When I attended the Microchip seminar on June 8, I was told the ICD's were
to ship on June 11. Since it's now June 23, I thought I would give them a
call and ask whether mine was lost. They now say that they will ship on
June 28. I noticed a notice on one of the pic lists saying the fellow had
obtained one and that it crashed fairly frequently. I can only hope they
are taking the extra time to fix it.

Steve and Steve: When did they tell the Orlando crowd they would have them
out?

John, W2FS

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52. [picsig] Re: Oh Where, oh where has my ICD gone?

From: Steve Dimse <sdimse@netrox.net>
Date: Wed, 23 Jun 1999 14:31:00 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-27124-1999.06.23-13.38.57--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On 6/23/99 1:53 PM John Hansen (john@hansen.net) wrote:

>Steve and Steve: When did they tell the Orlando crowd they would have them
>out?
>
They said 2 weeks. One of the engineers there said he personally had held
them up when he found a bug, maybe they have found others too...

Steve K4HG

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53. [picsig] RE: GPS-E ver B not working

From: "David Lee" <seatools@home.com>
Date: Wed, 23 Jun 1999 11:56:49 -0700
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-27126-1999.06.23-14.05.30--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

John,

I have ver. B working now, but still some problems. I took it one step at a
time
for the parameters. Only changed call sign to begin with. Works! Then
started
changing other params like SSID, path, icon number(i.e. hex 76 "v" for van),
message
bits, beacon text.

It seems like things fall apart if I change the path. For instance, it
doesn't like
WIDE3-3. WIDE3 seems to sort of work, but if I toggle to config 2, the PIC-E
still
transmits, but I can't decode anything from it. The default setting of
RELAY, WIDE,
WIDE seems to work solid, i.e. I seem to be able to change the ohter params
and
everything still seems solid. Switching between config 1 and config 2 AOK
(programmed
the same, except for message bit).

Thoughts?

Dave W6ZL
seatools@home.com

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

54. [picsig] RE: GPS-E ver B not working

From: John Hansen <john@hansen.net>
Date: Wed, 23 Jun 1999 15:09:43 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-27133-1999.06.23-14.18.31--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 11:56 AM 6/23/99 -0700, you wrote:
>John,
>

>It seems like things fall apart if I change the path. For instance, it
>doesn't like
>WIDE3-3. WIDE3 seems to sort of work, but if I toggle to config 2, the PIC-E
>still
>transmits, but I can't decode anything from it. The default setting of
>RELAY, WIDE,
>WIDE seems to work solid, i.e. I seem to be able to change the ohter params
>and
>everything still seems solid. Switching between config 1 and config 2 AOK
>(programmed
>the same, except for message bit).
>
>Thoughts?

That's interesting. I must confess I've never tried changing the path to
see what happened. The problem probably lies in my GUI program and the way
it pokes the path data into the hex file. I'll check into it this evening

or tomorrow at the latest and see what I can find out. One thing that
would be helpful is if you could e-mail me a path that you know for sure
doesn't work. For example, can I simply change the default to
RELAY,WIDE3-3,WIDE3-3 and see the behavior you are seeing? Thanks for
beating on this for me... my best guess is that the GUI isn't clearing the
field properly when you put the new data in, so its trying to put garbage
in the path in the PIC. If that's it, it should be an easy fix.

One other thing. You said the default path was working ... does that mean
you are copying the packets on your KPC-3 without problem when the default
path is used?

Thanks,

John W2FS

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55. [picsig] GPS Ver B Path Setting

From: "David Lee" <seatools@home.com>
Date: Wed, 23 Jun 1999 14:01:37 -0700
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-27215-1999.06.23-16.10.21--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

John,

Yes, I am seeing my packets direct from the KPC-3
with the default path of RELAY, WIDE, WIDE.

Here in Southern California we typically have 150
or so stations on the air with many high level
digis. WIDEN-N is the prefferd path setting as
it cuts way down on retransmission of packets.
The path setting that I can't get to work is:

WIDE3-3 (equivalent to WIDE,WIDE,WIDE, but
uses callsign substitution)

Dave W6ZL
seatools@home.com

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

56. [picsig] Re: Oh Where, oh where has my ICD gone?

From: "Steven R. Bible" <n7hpr@tapr.org>
Date: Wed, 23 Jun 1999 17:40:34 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-27217-1999.06.23-16.47.18--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 02:31 PM 6/23/99 -0400, you wrote:
>On 6/23/99 1:53 PM John Hansen (john@hansen.net) wrote:
>
>>Steve and Steve: When did they tell the Orlando crowd they would have them
>>out?
>>
>They said 2 weeks. One of the engineers there said he personally had held
>them up when he found a bug, maybe they have found others too...

I also noticed that they charged my credit card on 10 June. Hmmm.

- Steve, N7HPR
  n7hpr@tapr.org
  n7hpr@amsat.org

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

57. [picsig] ICD vs. ICE

From: Jeff King <jeff@aerodata.net>
Date: Wed, 23 Jun 1999 19:39:02 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-27225-1999.06.23-18.45.14--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Can someone list the pro's and con's of the ICD vs.
a ICE?

I know there is no trace, but $159 (is that what you guys are
paying) is a long way from what a ICE costs.... even a ICEPIC
junior.

Will the ICD monitor variables in real time? Breakpoints, etc? Some
of the info on the web site is not to clear as to what they mean (realtime
or in simulation). I know it works with MPLAB (which I think is kinda
buggy... but thats another day).

In other words, you fellows that have seen it, I am wondering what your
impression is..... also, are we talking just basically a cable for $159 or is
there some associated hardware with it?

Thanks for any feedback, will buy one tommorrow if it sounds useful.

Regards,

Jeff King wb8wka

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

58. [picsig] Re: ICD vs. ICE

From: John Hansen <john@hansen.net>
Date: Wed, 23 Jun 1999 21:10:29 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-27248-1999.06.23-20.18.22--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 07:39 PM 6/23/99 -0400, you wrote:
>Can someone list the pro's and con's of the ICD vs.
>a ICE?
>
>I know there is no trace, but $159 (is that what you guys are
>paying) is a long way from what a ICE costs.... even a ICEPIC
>junior.
>

If I could justify buying an MPLAB 2000, I probably would, but for those
looking for something cheaper, this looks like a nice choice. A few
relevant points:

1. I'm not sure what the list price is, but if you go to the Microchip
Seminar, you can get it for $129, and the seminar is then free. Since the
seminar was going to cost $50 and I was planning to go anyway, from my
perspective I paid $79 for the ICD.

2. As far as I know, it only works with the 16F87X series of chips. Right
now, the only chip in that series that's available is the 16F877.

3. On a basic level it will program these chips from within MPLAB. My
current programmer is an ITU unit (a Tait clone) and I'm not certain that
it will do the 877. I think it will, with the right software, but one of
the things this does for me is solve the 877 programming problem.

4. You plug your 877 into the unit and then the unit has a cable with a 40
pin plug on it that plugs into your target socket. Thus, it is inherently
an in circuit programmer.

5. It runs the code on the chip at full speed (well, almost full speed,
there is a slight amount of overhead that they have attempted to minimize).
 One of the reasons I want to play with it is to see if the overhead is so
great that it upsets bit-banging serial communication.

6. You can set one breakpoint. You can then examine the contents of any of
the registers that you want at that breakpoint. I saw this demonstrated

with MPLAB and it is very well done. Basically you set a breakpoint they
same way you would in the simulator.

7. You can step through the code one line at a time and examine the
registers. Again, the cool thing about this is that its not the simulator,
you are actually running the program on the chip.

8. If you are careful not to use capabilities of the 877 that don't exist
in the 16C77 (or 76 or 73, etc.), you could do development work on this
unit with an 877 instead of the windowed C77. Then burn the final code
into an OTP 77. This seems to make a great deal of sense to me.

Given the capabilities I thought it was well worth the $79.... if it ever
actually arrives!

73, John W2FS

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

59. [picsig] new pic programmer

From: Mike Nowlin <mike@argos.org>
Date: Thu, 24 Jun 1999 02:37:14 -0400 (EDT)
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-27285-1999.06.24-01.39.56--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Been looking at various PIC programmers for a while (16F84 is what I'm
interested in right now -- I'm an 8051 nut, and probably will stay that
way for a while for "bigger" projects)... After questioning several
designs of homebrew prgmrs, and getting disgusted with the price of the
"good" commercial ones, I've started taking on yet another project. Due
to the "hands-on" nature of this mailing list, I figured this would be a
good place to bounce this off people....... The basic stuff is being
tested right now, and I'm adding features as they come to mind.

Coming soon (I hope) to a web page near you:

PIC-16F84 programmer based off the "standard" 8051 setup -- one cpu, some
ROM, and some RAM... (the Tecny T1 board, for example).

Features:

Uses a serial port as a serial port was designed to be used.

Xmodem/CRC UL/DL of PIC code to the programmer... (I wrote the routines
for something else, might as well use them..... :)) Probably a
hex-format protocol as well..

On-board ?->12V converter for programming trigger voltage -- don't need to
have that 12-14V available -- 5V will be just peachy.

Built-in disassembler, POSSIBLY a built-in assembler/editor (depends on
how determined I get)

I love LCD modules -- "stuff" to handle one for various info

Considering a battery-powered portable design with flash RAM or BBRAM for
multiple PIC programs, with keypad for interaction w/LCD module.

Of course, it'll be under my "slightly modified GPL" license -- GPL, but I
would like to know about people using it.

Comments? Questions? (and most importantly) Suggestions?

--Mike N8NVW

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

60. [picsig] PIC-E

From: Brian Short <bshort@speedchoice.com>
Date: Thu, 24 Jun 1999 07:10:32 +0000
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-27286-1999.06.24-02.18.49--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi,

If anyone is keeping score, I finally assembled
and tested my PIC-E of the first 50 lot. All is
working correctly.

If anyone has experiences to share, please feel
free to contact me via email.

73, Brian

--
Brian K. Short http://www.qex.net/k7on/ mailto:k7on@arrl.net
--

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61. [picsig] GPS-E-2c.zip available shortly

From: John Hansen <john@hansen.net>
Date: Thu, 24 Jun 1999 11:22:59 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-27325-1999.06.24-10.30.27--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Thanks to Dave Lee for finding a couple bugs in the way GPS-E-2b handles
paths. I've made some corrections and produced a version C that has been
uploaded to the picsig software area. It should be available for download
shortly (after it has been moved from the upload to the download area).

If you are using the default path in the software (RELAY, WIDE, WIDE) you
won't notice any changes. However, there were a number of problems with
paths that had SSID's greater than 0 and in some cases where the number of
digis in the path was less than 3. These errors were mostly in the GUI
interface so it is important to update both the GPS-E-2.EXE file and the
gpse.hex file.

Thanks again for your patience.

John, W2FS

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62. [picsig] Re: GPS-E-2c.zip available shortly

From: Bill Vodall <wa7nwp@bigsky.com>
Date: Thu, 24 Jun 1999 10:16:47 -0700
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-27334-1999.06.24-12.23.11--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>interface so it is important to update both the GPS-E-2.EXE file and the
>gpse.hex file.
>
>Thanks again for your patience.
>
>John, W2FS

THANK YOU John, for your efforts and sharing them.   I had my
first go at programming GPS-E into the PIC-E last night. The
setup and program appeared to work fine.

Two questions:

  Is some sort of "erase" step necessary?   I'm new to programming
  flash devices.

  Should I see any led activity if GPS-E is running?   Power LED

> was on. Nothing else.   Does PTT LED come on every X seconds
> in automatic mode?   Will it send packets if there's no valid
> GPS data? Basically - how do I know it's working?

The idea of two switchable configurations is cool. The GUI for
the configuration is a good thing.   With a little luck, I'll have
a cable made tonight and will soon be blasting out even more packets.

Bill

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

63. [picsig] Re: GPS-E-2c.zip available shortly

From: John Hansen <john@hansen.net>
Date: Thu, 24 Jun 1999 16:52:59 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-27373-1999.06.24-16.01.55--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 10:16 AM 6/24/99 -0700, you wrote:

>Two questions:
>
> Is some sort of "erase" step necessary?   I'm new to programming
> flash devices.

No, you don't need to erase. In fact erasing would slow you down. The way
the programmer works is to compare the data you want to load with the data
that's already in the chip. It only reprograms those locations that have
changed. This reduces the wear and tear on the chip and also speeds up the
programming a lot, since writing is a much slower operation than reading.
If you take a blank F84 and run GPS-E-2 to program it, the first time it
will take a while. When you reprogram it, it should go much faster.

>
> Should I see any led activity if GPS-E is running?   Power LED
> was on. Nothing else.   Does PTT LED come on every X seconds
> in automatic mode?   Will it send packets if there's no valid
> GPS data? Basically - how do I know it's working?

The valid LED should flash once on power up. Make sure you remember to put
the JP4 jumper back on after you program it. If there is no GPS hooked up,
or if it isn't sending out valid data (the PIC is looking for the GPRMC
line) you won't see anything else happen. After it receives good data from
the GPS, occasionally you will see the PTT LED flash if it is in the auto
mode. How often this occurs depends on the time you have set in the
configuration screen. When the GPS has acquired the needed number of
satellites and begins to send updated data to the PIC, you will see the
Valid light come on. The PIC-E will transmit even with bad data as long as
it is receiving some data.   The mic-e format has a bit that gets set to
report whether the data is good or old.

>
>The idea of two switchable configurations is cool. The GUI for
>the configuration is a good thing.   With a little luck, I'll have
>a cable made tonight and will soon be blasting out even more packets.
>

Let me know if I can be of further assistance.

John, W2FS

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64. [picsig] Re: GPS-E-2c.zip available shortly

From: "Steven R. Bible" <srbible@gate.net>
Date: Thu, 24 Jun 1999 17:05:27 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-27374-1999.06.24-16.12.33--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

The files have been moved to

    ftp://ftp.tapr.org/picsig/software/

Have fun!

- Steve N7HPR

At 11:22 AM 6/24/99 -0400, you wrote:
>Thanks to Dave Lee for finding a couple bugs in the way GPS-E-2b handles
>paths. I've made some corrections and produced a version C that has been
>uploaded to the picsig software area. It should be available for download
>shortly (after it has been moved from the upload to the download area).
>
>If you are using the default path in the software (RELAY, WIDE, WIDE) you
>won't notice any changes. However, there were a number of problems with
>paths that had SSID's greater than 0 and in some cases where the number of
>digis in the path was less than 3. These errors were mostly in the GUI
>interface so it is important to update both the GPS-E-2.EXE file and the
>gpse.hex file.
>
>Thanks again for your patience.
>
>John, W2FS
>
>
>
>---
>You are currently subscribed to picsig as: srbible@gate.net
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>
>

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65. [picsig] Re: GPS-E-2c.zip available shortly

From: "Steven R. Bible" <srbible@gate.net>
Date: Thu, 24 Jun 1999 21:14:15 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-27404-1999.06.24-20.21.31--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> Is some sort of "erase" step necessary?   I'm new to programming
> flash devices.

Bill, there's an ICSP manual. It's available online at

    http://www.microchip.com/10/Tools/picmicro/program/icsp/index.htm

Good Luck!

- Steve, N7HPR
  n7hpr@tapr.org
  n7hpr@amsat.org

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66. [picsig] Re: GPS-E-2c.zip available shortly

From: Bill Vodall <vodall@bigsky.com>
Date: Fri, 25 Jun 1999 06:39:54 -0700 (PDT)
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-27494-1999.06.25-08.47.03--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>
> > Is some sort of "erase" step necessary?   I'm new to programming
>
> No, you don't need to erase. In fact erasing would slow you down. The way

Thanks for the replies - lots of good info.

> > Should I see any led activity if GPS-E is running?   Power LED
>
> The valid LED should flash once on power up.

Yeah! I get a one-blink on the yellow LED with the new software.
It's working!!!

> Make sure you remember to put
> the JP4 jumper back on after you program it.

:-)   So that's why my green led didn't come on.

> After it receives good data from the GPS,

Tonight will be the night to make up the cable for the HT and
put a connector on the new GPS-35...   Progress - slow and steady.

> John, W2FS

Bill, WA7NWP

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67. [picsig] PIC-E evaluation

From: "Mike Berg" <mikeberg@midstate.tds.net>
Date: Sun, 27 Jun 1999 12:51:39 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-27712-1999.06.27-12.59.21--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Just built my second PIC-E kit, the first has been in use for a little over
a month.
Some of my observations follow;

It would be nice to have a power on/off switch.

I'd like to have a pause feature. None of the local repeater controllers
(human type) have shown any interest in becoming APRS friendly, so I'd
like to be able to turn the packet broadcast feature off while using them
and
yet maintain my GPS fix.
Can I set one of the two configurations to do that ? (i.e. NO beacon)
What is the maximum time setting allowed?

It appears the valid GPS fix indication is only updated at beacon time.
Realtime would be nice.

My mods:
Cut the 5v trace between U2 and C4. Used the vias at the trace ends to add
jumpers to a power switch.

Since my Tripmate has been modified with an internal 9 volt regulator, I
needed
10.5 volts or more at pin 9 of the serial connector. Did this by adding a
jumper
from the cathode end of D11 to pin #9 of the GPS DB9 connector.
My experience in the past using less than 7 volts to the Tripmate was that
it seemed
to take a lot longer to lock on.

I tried to download the new GPS-E-2c.zip file, but was unable to find it.
Tho the content of this message is of a critical nature, I'd like to say to
the
developers "Great Job!"
73 Mike Berg N0QBH

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68. [picsig] PIC-E update

From: Bill Vodall <vodall@bigsky.com>
Date: Sun, 27 Jun 1999 11:23:46 -0700 (PDT)

To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-27713-1999.06.27-13.30.57--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Not only does my PIC-E now work, it's lots of fun!

I'm surprised I didn't get the bomb squad called on me as I was
walking down the Sammamish slough trail, holding this backpack
covered with wires, a telescoping antenna sticking out, making
funny brapp-brapp noises, trying to keep this little black module
(of C5?) balanced on top, all the while watching to make sure the
yellow light stays on.

I got home and my buddy on ICQ who was watching said, "you're home."

I learned a few things yesterday:

- GPS-35 needs to be in the open for a bit when first powered up
  to find itself. The initial position is a little left of Mongolia.

- Using APRSPLUS to view the GPS data, when the GPS thinks it's in
  Mongolia, sets the local position to Mongolia.

- RJ45 ends may have one gold wire connector a bit lower in the
  plastic so as to not make contact.

- The mod to the PIC-E to prevent it from keying the transmitter
  when turned off is a good thing.

- A GPS-35 trak-pak needs to "face up".

- GPRMC packets, have "A" or "V" before the latitude.
  "A" is A good fix.
  "V" is Very bad data

- MIC-E packets have "'" or "`"
  "`" is good fix.
  "'" is bad.

- Keeping the entire 12' of wire on the GPS-35 may be a bit
  excessive for portable operation.

And some ideas for the evolution of my bicycle/hiking/walking tracker
using the PIC-E.

- Velco on bottom of the GPS-35. No magnetic base. Sew matching velcro
  strip on top of backpack or where ever GPS-35 will be needed.

- Alinco SJ11 HT may not be idea. It wants 5.5V input. I'm guessing
  the regulated 5v of PIC-E would work. I'd have to replace 78L05 with
  regular 7805 to run SJ11 in high power. (All 300 milliwatts worth.)
  Lack of antenna connector on SJ11 is another issue. That can be fixed
  but it would entail dedicating the radio.

- Mounting the PIC-E so the LED's are visible is going to be tricky. Might
  have to come up with an LED extension cable. Blinky lights is what
  it's all about. Gotta have the blinkies..

And finally one suggestion for the PIC-E. (I don't think this was on
the list.) There's a jumper to remove to put a resistor in series with
the PTT line for HT operation. A third pin on the jumper to connect the
output side of the PTT resistor to the output of the MIC-AF-OUT cap
would have been helpful. That would make it HT ready. I ended
up soldering a jumper wire on the bottom of the board.

A great little kit - the adventures will continue for sure.

73,
Bill - WA7NWP(-7)

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69. [picsig] Re: PIC-E evaluation

From: "Steven R. Bible" <srbible@gate.net>
Date: Sun, 27 Jun 1999 16:37:35 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-27724-1999.06.27-15.44.29--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 12:51 PM 6/27/99 -0500, you wrote:
>Just built my second PIC-E kit, the first has been in use for a little over
>a month.
>Some of my observations follow;
>
>It would be nice to have a power on/off switch.

As you note below, one other method is to supply power to the B1
connections via a power switch.

>I'd like to have a pause feature. None of the local repeater controllers
>(human type) have shown any interest in becoming APRS friendly, so I'd
>like to be able to turn the packet broadcast feature off while using them
>and yet maintain my GPS fix.
>Can I set one of the two configurations to do that ? (i.e. NO beacon)
>What is the maximum time setting allowed?

Yes you can. Set one to be manual and the other to be auto. I'm not sure
the maximum time. Tyipically an 8-bit byte max value is 255, and what
every the period of the event times that.

>It appears the valid GPS fix indication is only updated at beacon time.
>Realtime would be nice.

Hmmm. I think the valid is immediate and if lose of valid GPS it is at
beacon time. Need to look at the source (as said in the Linux commuity,
"Use the source Luke!" :-)

>My mods:
>Cut the 5v trace between U2 and C4. Used the vias at the trace ends to add
>jumpers to a power switch.
>
>Since my Tripmate has been modified with an internal 9 volt regulator, I
>needed
>10.5 volts or more at pin 9 of the serial connector. Did this by adding a
>jumper
>from the cathode end of D11 to pin #9 of the GPS DB9 connector.

Good for you. Glad to see someone not afraid to "cut into" the traces.

>My experience in the past using less than 7 volts to the Tripmate was that
>it seemed
>to take a lot longer to lock on.
>
>I tried to download the new GPS-E-2c.zip file, but was unable to find it.

Are you sure? Please try again. I moved the files over Friday (I think).

>Tho the content of this message is of a critical nature, I'd like to say to
>the developers "Great Job!"

Thanks! And you are not being critical, you are giving us constructive
critisim. We really need this in order to improve products.

With Microchips new flash parts (see the PIC16F877), the PIC-E-II can be
even better with input like this. We hope to include an enclosure too.

- Steve, N7HPR
  n7hpr@tapr.org
  n7hpr@amsat.org

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

70. [picsig] Cfg question...

From: "Mike Berg" <mikeberg@midstate.tds.net>
Date: Mon, 28 Jun 1999 17:57:44 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-27870-1999.06.28-18.04.34--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>>Can I set one of the two configurations to do that ? (i.e. NO beacon)

>Yes you can. Set one to be manual and the other to be auto.

I'm assuming to do this I'd set the beacon time to zero (0) in the auto mode
for the manual cfg and vice versa ?

Also found the new software. Operator error, page needed refreshing :)

Anyone thought about using the new PIC F87 for the APRS friendly repeater
interface? Can we use external memory other than the EEPROMs ?

Also a bit off topic, but maybe someone here can help me out.
I've interfaced my old Heathkit 4001 wx station to APRS. Recently, one of
my
temp sensors went bad and I'd like to fix it. Anyone know a cross for the
sensor
IC itself?
73 Mike N0QBH

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July 1999

Original source file: picsig.9907
Source: http://ftp.tapr.org/tapr_history/SIG_Archives/picsig/mail_archive/picsig.9907

1. [picsig] CCS C Pic Programs?

From: Brian Short <bshort@speedchoice.com>
Date: Fri, 02 Jul 1999 04:08:51 +0000
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-28332-1999.07.01-23.16.10--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I am having great fun playing with the Basic Stamp 2
as well as some PICs.

My Basic Stamp 2 CW IDer is completed:

  http://www.qex.net/k7on/stamp/cwider.htm

My next step is to use the CW ID as part of my 900MHz
ATV "beacon" system. As it currently stands, I have the
BS2 interfaced with a BOB-II video overlay module. I will
next add the DTMF decoder and control receiver inputs.

Also, I have built up my PIC-E from TAPR and have been
playing with that. I acquired the CCS C compiler for PIC
and am playing around, but I'd like to find some good sample
programs written for 16F84 with CCS C (preferably amateur
related)?   Sources? (pun intended)

Thanks in advance, Brian

--
Brian K. Short http://www.qex.net/k7on/ mailto:k7on@arrl.net
--

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2. [picsig] PIC-E & Magellan 3k

From: "Mike Berg" <mikeberg@midstate.tds.net>
Date: Fri, 2 Jul 1999 11:02:14 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-28416-1999.07.02-11.09.54--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Was attempting to interface my PIC-E to a Magellan 3000 GPS today when
I discovered it would only work if I left JP2 in the Tripmate position.
Ohmed out the "N" path to PIC pin #18 and it showed continuity as it should.
Not quite sure why, pin #2 (GPS RxD) of the DB-9 isn't connected to the GPS,
so that path shouldn't be an issue.
At any rate, they seem to work fine together in this mode. Maybe save
somebody
a bunch of head scratching :)
73 Mike N0QBH

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

3. [picsig] Re: CCS C Pic Programs?

From: Richard A Hershey <kiloalphaeightdeltaechodelta@juno.com>
Date: Fri, 2 Jul 1999 20:38:34 EDT
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-28436-1999.07.02-19.47.45--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Try here. He has done a few for QST and his site has more just look it
over.

                http://www.sonic.net/~shageman/

_____
Get the Internet just the way you want it.
Free software, free e-mail, and free Internet access for a month!
Try Juno Web: http://dl.www.juno.com/dynoget/tagj.

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

4. [picsig] PIC-E

From: Richard M Bender <w3syy@penn.com>
Date: Fri, 02 Jul 1999 21:10:11 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-28447-1999.07.02-20.18.19--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Just got my PIC-E together and it works great! Need to switch mentally
from 8085 assembler language to the 16F84 version now.

Found a minor error in Figure 2 (page 11) of the PIC-E Manual (May 1999
version).
Figure 2-Programming Jumpers : the right illustration is labeled
incorrectly! Has: J5 J6 J4   should be: J6 J4 J5

Great project!
73, Dick/W3SYY

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

5. [picsig] Re: CCS C Pic Programs?

From: John Hansen <john@hansen.net>
Date: Sat, 03 Jul 1999 10:16:16 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-28499-1999.07.03-09.25.29--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 04:08 AM 7/2/99 +0000, you wrote:
>Also, I have built up my PIC-E from TAPR and have been
>playing with that. I acquired the CCS C compiler for PIC
>and am playing around, but I'd like to find some good sample
>programs written for 16F84 with CCS C (preferably amateur
>related)?   Sources? (pun intended)
>

GPS-E-2 was written in CCS C. The source code is included in the .zip file
on the TAPR web site. The source code for the "ChannelWatch" project that
I did for the November 98 issue of QST is also in CCS C. It is available
on the ARRL's web site:

ftp://ftp.arrl.org/pub/qst-binaries/

in a file called channelw.zip

There were 2 16F84's in that project. The Display.C code drives an LCD
display, while the Monitor.C code steps the radio through its channels,
determines whether the frequency is busy or not, and calculates a
utilization percentage for each channel.

Have fun!

John, W2FS

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6. [picsig] MX614

From: Ronald Armstrong <roarmst@total.net>
Date: Wed, 07 Jul 1999 09:12:02 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-29032-1999.07.07-08.20.39--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Does nyone know where I can
buy MX614.

de Ronald VE2JOR

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7. [picsig] Re: MX614

From: James Jefferson <jjeffers@deskmedia.com>
Date: Wed, 07 Jul 1999 09:24:49 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-29038-1999.07.07-09.30.27--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>Does nyone know where I can
>buy MX614.

Ronald, TAPR takes a while to get them out. Try Component Distributors, Inc:
No minimum order. http://www.compdist.com

25:     $5.60
50:     $5.04

I think they are about $7 in quantity 1.

Good luck,

-James Jefferson KB0THN
jjeffers@deskmedia.com
http://www.deskmedia.com/~jjeffers/

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8. [picsig] MX614.asm question

From: "Mike Berg" <mikeberg@midstate.tds.net>
Date: Sun, 11 Jul 1999 16:02:44 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-29686-1999.07.11-16.11.05--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I'm finally getting some time to digest the assembly code used in the PIC-E
project and ran across a couple of nearly indentical lines in the mx614.asm
program that I don't quite understand.

```
Tone_Disable

        movlw    b'11010111'
        movwf    OPTION_REG & BANK1

Tone_Enable

        movlw    b'11010011'
        movfw    OPTION_REG & BANK1
```

I understand loading the option register, but it appears to be then bitwise
ANDed with BANK1 (7F) which would clear bit 7 of the option register.
Wouldn't it have been simpler to just load b'0101....' in the first place?
As it's too obvious, I'm assuming that I've missed something here...
73 Mike N0QBH

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9. [picsig] Re: MX614.asm question

From: byon@mail.com
Date: Sun, 11 Jul 1999 23:03:19 -0700
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-29750-1999.07.12-01.12.37--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On 11 Jul 99, at 16:02, Mike Berg wrote:

> I'm finally getting some time to digest the assembly code used in the
> PIC-E project and ran across a couple of nearly indentical lines in the
> mx614.asm program that I don't quite understand.
>

> Tone_Disable
>
>   movlw   b'11010111'
>   movwf   OPTION_REG & BANK1
>
> Tone_Enable
>
>   movlw   b'11010011'
>   movfw   OPTION_REG & BANK1
>
> I understand loading the option register, but it appears to be then
> bitwise ANDed with BANK1 (7F) which would clear bit 7 of the option
> register. Wouldn't it have been simpler to just load b'0101....' in the
> first place? As it's too obvious, I'm assuming that I've missed something
> here... 73 Mike N0QBH
>

Hi Mike,

  I'll explain the reasoning behind the above code. The "& BANK1"
actually strips the high bit off the OPTION_REG, not the
b'11010x11' (the value soon to be in the option register).

Now, you ask, "Why are you stripping the high bit off the address
of the option register?"

Well, on the F84, the option register is in memory bank 1 at
address 0x81. The way you access that address is by setting
STATUS:RP0 to 1. (You could also access the option register with
the OPTION command, but its use is not recommended).
Whenever you access a register file in bank 1, the assembler will
warn you that you must be in bank 1, even if you just set
STATUS:RP0. So, to hide the warning, I strip off the high bit
(which is what assembler/chip does anyway), thus writing to
address 0x01, which is TMR0 when RP0 is clear, and OPTION
when RP0 is set.

If you were to leave the "& BANK1" out, you would get a warning,
but the code would still compile and run fine. Since I visually scan
for errors in my assembler output during development, I wanted to
hide/remove the warnings.

Thanks for the good question!

Byon

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10. [picsig] Help! Can't program

From: "John B. Leonard, Jr." <jleonard@tbcnet.com>
Date: Wed, 14 Jul 1999 00:07:35 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-30017-1999.07.14-00.15.52--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi,
I just got my PIC today. It all went together well. Did the +5 volt
checks, and they came out ok.

Unzipped the Picprog06, plugged the unit into the com port on the
laptop(with the power off the PIC) . As soon as I plugged the serial cable
in, I got a green pwr lite.

Then when I went to the Picprog and told it was on Com 1, the green lite
went off, and now I can't program it. The green lite still comes on after I
disconnect the serial port and plug 12V into it.

Whatdid I mess up?

jb leonard jr/W9JBL
De Kalb IL
jleonard@tbcnet.com

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11. [picsig] Re: Help! Can't program

From: John Hansen <john@hansen.net>
Date: Wed, 14 Jul 1999 08:07:14 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-30029-1999.07.14-07.16.27--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 12:07 AM 7/14/99 -0500, you wrote:
>Hi,
>I just got my PIC today. It all went together well. Did the +5 volt
>checks, and they came out ok.
>
>Unzipped the Picprog06, plugged the unit into the com port on the
>laptop(with the power off the PIC) . As soon as I plugged the serial cable
>in, I got a green pwr lite.
>
>Then when I went to the Picprog and told it was on Com 1, the green lite
>went off, and now I can't program it. The green lite still comes on after I
>disconnect the serial port and plug 12V into it.
>
>Whatdid I mess up?

The first thing to check is whether you removed JP4 when you programmed
it. You didn't mention this, but you should remove it. If this doesn't do
it, try going to a desktop computer and trying it. My laptop works fine,
but I've heard that many use shortcuts on their serial ports and the
voltages are, as a result, low.

John, W2FS

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12. [picsig] Re: Help! Can't program

From: "John B. Leonard, Jr." <jleonard@tbcnet.com>
Date: Wed, 14 Jul 1999 09:37:53 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-30047-1999.07.14-09.46.11--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I removed JP4, but no improvement.

On the DB-9, P2, I have -9.4v on pin 3 and -11.4v on pin 4 from the
computer.

I resoldered, checked for bridges, cleaned, etc.

On Pg 8 the instructions say not to power the PIC during programming. I
think I had the PIC installed, but not connected to the computer for
programming, but I applied 12v.

Did the instructions mean to say, "Don't apply power with the PIC installed
prior to programming"?

jb leonard jr/W9JBL
De Kalb IL
jleonard@tbcnet.com
----- Original Message -----
From: John Hansen <john@hansen.net>
To: TAPR PIC Development Special Interest Group <picsig@lists.tapr.org>
Sent: Wednesday, July 14, 1999 7:07 AM
Subject: [picsig] Re: Help! Can't program

> At 12:07 AM 7/14/99 -0500, you wrote:
> >Hi,
> >I just got my PIC today. It all went together well. Did the +5 volt
> >checks, and they came out ok.
> >
> >Unzipped the Picprog06, plugged the unit into the com port on the
> >laptop(with the power off the PIC) . As soon as I plugged the serial
cable
> >in, I got a green pwr lite.
> >

> >Then when I went to the Picprog and told it was on Com 1, the green lite
> >went off, and now I can't program it. The green lite still comes on
after I
> >disconnect the serial port and plug 12V into it.
> >
> >Whatdid I mess up?
>
> The first thing to check is whether you removed JP4 when you programmed
> it. You didn't mention this, but you should remove it. If this doesn't
do
> it, try going to a desktop computer and trying it. My laptop works fine,
> but I've heard that many use shortcuts on their serial ports and the
> voltages are, as a result, low.
>
> John, W2FS
>
> ---
> You are currently subscribed to picsig as: jleonard@tbcnet.com
> To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

---
You are currently subscribed to picsig as: lyris.picsig@tapr.org
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13. [picsig] Re: Help! Can't program

From: John Hansen <john@hansen.net>
Date: Wed, 14 Jul 1999 10:56:37 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-30052-1999.07.14-10.08.40--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 09:37 AM 7/14/99 -0500, you wrote:
>I removed JP4, but no improvement.
>
>On the DB-9, P2, I have -9.4v on pin 3 and -11.4v on pin 4 from the
>computer.
>
>I resoldered, checked for bridges, cleaned, etc.
>
>On Pg 8 the instructions say not to power the PIC during programming. I
>think I had the PIC installed, but not connected to the computer for
>programming, but I applied 12v.
>
>Did the instructions mean to say, "Don't apply power with the PIC installed
>prior to programming"?

What the instructions mean is that you should not apply any power to the
PIC-E when you are programming it. That is, all the power it needs comes
from the computer that is doing the programming.

If you are only reading 9.4 volts on pin 3, that could well be your
problem. The RS-232 spec calls for this to be more like 12 volts, but I've
had success programming the PIC-E with serial ports that produce only about
10 to 10.5 volts. I don't think I've been able to do it with 9.4. I would
suggest trying it on a desktop computer to see if it programs properly
there. Chances are that is the only problem.

John, W2FS

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14. [picsig] Re: MX614

From: Greg Jones <wd5ivd@tapr.org>
Date: Wed, 14 Jul 1999 10:04:36 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-30055-1999.07.14-10.14.55--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

If this is correct, then TAPR can stop handling MX-614 chips. The reason
TAPR started providing MX-614 chips earlier this year was that numerous
people on this list wanted them, but couldn't make the minimum order. At
the time there was a minimum order from Component Distributors of 100
units.

Maybe this has changed ?

Can someone confirm.

Cheers - Greg

>>Does nyone know where I can
>>buy MX614.
>
>Ronald, TAPR takes a while to get them out. Try Component Distributors, Inc:
>No minimum order. http://www.compdist.com
>
>25: $5.60
>50: $5.04
>
>I think they are about $7 in quantity 1.
>
>Good luck,
>
>
>-James Jefferson KB0THN
>jjeffers@deskmedia.com
>http://www.deskmedia.com/~jjeffers/
>
>---
>You are currently subscribed to picsig as: wd5ivd@tapr.org
>To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

-----
Greg Jones, WD5IVD   Austin, Texas
wd5ivd@tapr.org   http://www.tapr.org/~wd5ivd

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15. [picsig] Re: Help! Can't program

From: "Steven R. Bible" <srbible@gate.net>
Date: Wed, 14 Jul 1999 13:28:02 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-30072-1999.07.14-12.35.29--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 09:37 AM 7/14/99 -0500, you wrote:
>I removed JP4, but no improvement.
>
>On the DB-9, P2, I have -9.4v on pin 3 and -11.4v on pin 4 from the
>computer.

Yes, but these are inactive voltages. Once the programmer starts these
will go positive. Thus supplying ~10v to pin 4 of the PIC and pins 12 and
13 will toggle from clock and data signals. And pin 14 of the PIC should
be ~5v.

>I resoldered, checked for bridges, cleaned, etc.
>
>On Pg 8 the instructions say not to power the PIC during programming. I
>think I had the PIC installed, but not connected to the computer for
>programming, but I applied 12v.
>
>Did the instructions mean to say, "Don't apply power with the PIC installed
>prior to programming"?

You can have power apply while programming. It won't do anythig. It is a
caution to not do it as we don't want anything inadvertantly goofing
something up.

One other thing you can try is a shorter serial cable. Then try a desktop
PC. Of the few PIC-E's that people had trouble programming, they were
using laptops.

So far, only one PIC16F84 just wouldn't program. This person had two
PIC-E's and he swapped PICs. He ruled out the PIC-E board. I sent him
another PIC and it worked. He mailed me the unprogrammable PIC and I
couldn't program it unless it was in Microchip's PICSTART Plus programmer.
So this one PIC must be a the top end of the manufacturing specs.

- Steve, N7HPR

n7hpr@tapr.org
n7hpr@amsat.org

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16. [picsig] Looky here...

From: Steve Dimse <sdimse@netrox.net>
Date: Wed, 14 Jul 1999 18:14:44 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-30094-1999.07.14-17.24.36--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

How about a web server on a pic? See:

http://www-ccs.cs.umass.edu/~shri/iPic.html

As slashdot pointed out, there is no code, so it may not be real...

If it is real, we could do a IGate on a PIC...

Steve K4HG

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17. [picsig] Re: Help! Can't program

From: "Jim K." <jimbok@i-2000.com>
Date: Wed, 14 Jul 1999 18:54:49 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-30096-1999.07.14-17.59.31--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Steve,
Can you shed some light on the difference between laptop and desktop serial
ports? I have build several PIC projects that use serial ports and a few
with a constant data stream, I find when I use a lap top things get goofy.

>One other thing you can try is a shorter serial cable. Then try a desktop
>PC. Of the few PIC-E's that people had trouble programming, they were
>using laptops.
>

Jim Krutzler A.K.A. "Jimbo K"

Home Page:
http://www.i2.i-2000.com/~jimbok

mailto:jimbok@i-2000.com   mailto:kb2uoi@amsat.org
Ham Radio call: KB2UOI Phone/Fax 732.248.4479

Attitude is Everything!

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18. [picsig] Re: Help! Can't program

From: "Steven R. Bible" <srbible@gate.net>
Date: Wed, 14 Jul 1999 19:16:32 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-30098-1999.07.14-18.23.52--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 06:54 PM 7/14/99 -0400, you wrote:
>Steve,
>Can you shed some light on the difference between laptop and desktop serial
>ports? I have build several PIC projects that use serial ports and a few
>with a constant data stream, I find when I use a lap top things get goofy.

Hello Jim,

It's because laptop makers take liberties with the serial port hardware.
The RS-232 levels are suppose to be + and - 5 to 12 volts. The large
voltages are so that the signals can travel long distances. Noise can add
a few millivolts to the signal, but at such a high signal level, it gets lost.

I am not certain how many milliamps RS-232 is suppose to source and sink.
You can measure the voltage of a laptops serial port and it can be ~10v but
when you place a load on it, then the voltage goes way down.

During the evaluation of the PIC-E (the first 50 kits), there were about
4-5 people that could not program their PIC-E's on a laptop but could on a
desk top. John Hansen, W2FS, has been successful with his laptop. So not
all laptops are created equal.

So, in general, you do see serial port problems with laptops 9 out of 10
times.

Hopefully this helps explain why.

- Steve, N7HPR
  n7hpr@tapr.org
  n7hpr@amsat.org

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19. [picsig] reverse voltaged

From: "KC5GOI" <kc5goi@kc5goi.net>
Date: Wed, 14 Jul 1999 20:30:17 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-30103-1999.07.14-20.36.46--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I have to ask this question with a sweating brow. I unfortunately connected
my pic-e to reveresed power this weekend. I have replaced the voltage
regulator since is popped like a popcorn kernal. The pic-e is running now
but is very ill. The tones are not coming out corretly and I can hear what
sounds like the data on the pic chip in the back ground. The active light
also dithers randomly. My fear is the pic chip got zapped. Has anyone made
the same mistake and if so, what did you have to replace? What brought this
on was my replacing the coaxial power connector for the 2.1 mm.
    Steve B, if this had to happen I wish it had before we released the 2nd
rev of the board. I would have suggested a diode to help prevent this from
happening.

73, Guy Story
kc5goi@kc5goi.net
http://www.kc5goi.net
940.243.0754

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

20. [picsig] Re: reverse voltaged

From: John Hansen <john@hansen.net>
Date: Wed, 14 Jul 1999 21:46:10 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-30104-1999.07.14-20.55.28--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 08:30 PM 7/14/99 -0500, you wrote:
>I have to ask this question with a sweating brow. I unfortunately connected
>my pic-e to reveresed power this weekend. I have replaced the voltage
>regulator since is popped like a popcorn kernal. The pic-e is running now
>but is very ill. The tones are not coming out corretly and I can hear what
>sounds like the data on the pic chip in the back ground. The active light
>also dithers randomly. My fear is the pic chip got zapped. Has anyone made
>the same mistake and if so, what did you have to replace? What brought this
>on was my replacing the coaxial power connector for the 2.1 mm.
>   Steve B, if this had to happen I wish it had before we released the 2nd
>rev of the board. I would have suggested a diode to help prevent this from

>happening.

I don't think the PIC is destroyed. I've plugged them in backwards in a
number of projects and always found that they still worked (after I turned
them around, of course!) However, my guess is that the MX 614 may have bit
the big one. Most chips can't take this kind of treatment (I don't know
why PIC's seem to be able to).

Is your GPS running off the PIC-E power supply? That would be a real
reason to worry.

I would start by assuming the problem lies with the MX-614. TAPR is
selling replacements and they are pretty cheap. Even if you have to
replace the PIC, it's only $6 from Digikey in quantity 1. The neat thing
about this project is that it does not require a programmed PIC, since you
are doing the programming yourself. So even if you need a new one, you can
get it from whatever source you like, reprogram it and you are off and
running. I'd bet, however, that the PIC is ok, but the 614 is sick.
If you want to test the 614 to see if it is working, remove the PIC from
the circuit and make the following connections on the PIC socket:

Pin 7   Ground
Pin 8   + 5 volts (make sure you are using +5 volts, not the voltage on
the input of the regulator!)
Pin 11 Ground

Now power up the circuit and listen to the audio output. You should get
one of the Bell 202 tones. When you shift Pin 11 to a +5 volt source, it
should switch to the other Bell 202 tone. Remember, remove the PIC before
doing this, and make the connections into the PIC socket.   If you get
these tones and they sound good, your MX 614 is probably ok. If you don't
get these results, your MX 614 is almost certainly dead.

Hey, at least its a relatively cheap mistake. I blew up a $50 Basic Stamp
once.

John, W2FS

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

21. [picsig] Re: reverse voltaged

From: Jeff King <jeff@aerodata.net>
Date: Wed, 14 Jul 1999 21:53:19 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-30105-1999.07.14-20.57.45--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Sorry to hear about your board Guy.

KC5GOI wrote:

>
>   Steve B, if this had to happen I wish it had before we released the 2nd
> rev of the board. I would have suggested a diode to help prevent this from
> happening.

Its my understanding the 2nd rev has a series connected diode added to it. I
think
this was added to prevent resets in a automobile during cranking, but it has the

side benefit of not allowing reverse connection of power to the unit. BTW, those
that
want to run these in a automobile might want to increase the value of the cap
after this
diode, I think its only 1uf and this will not give very long hold-up time. I'd
suggest
something of 220uf or higher here.

73

Jeff

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

22. [picsig] Re: reverse voltaged

From: "Steven R. Bible" <srbible@gate.net>
Date: Wed, 14 Jul 1999 21:56:39 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-30106-1999.07.14-21.03.47--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 08:30 PM 7/14/99 -0500, you wrote:
>   Steve B, if this had to happen I wish it had before we released the 2nd
>rev of the board. I would have suggested a diode to help prevent this from
>happening.

We did add the diode on the production boards for this very reason, and it
was asked for by the eval users. Sorry it had to happen to you :-(.

The question will be that the 78L05 acted as a fuse, but was there any
transient that effected the PIC and/or the MX614. Of course, we'll never
know. Only the after effects.

Yet this is an easy fix. Replace the PIC and see what happens. The same
for the MX614.

And for the eval users that would like reverse polarity protection, the
diode is one way to go. There are TO-92 voltage regulators that have
reverse polarity protection built in. They are a couple of dollars though.
 Fuses tend to be cheaper (and easily replacable :-).

- Steve, N7HPR
  n7hpr@tapr.org
  n7hpr@amsat.org

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

23. [picsig] Re: reverse voltaged

From: Jeff King <jeff@aerodata.net>
Date: Wed, 14 Jul 1999 21:59:49 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-30107-1999.07.14-21.04.13--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

John Hansen wrote:

>
>
> I don't think the PIC is destroyed. I've plugged them in backwards in a
> number of projects and always found that they still worked (after I turned
> them around, of course!)

Well, I have done the same thing, and they generally work for me as well. I
say generally, because some of them "sorta kinda worked". Generally the
problems exhibit themselves in reduced drive levels or strange input sensitivity
levels. I hate to say this, but I've done this twice, and the second one that
I did this to was a bond-out chip.... a costly lesson.

-Jeff

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24. [picsig] Re: reverse voltaged

From: "KC5GOI" <kc5goi@kc5goi.net>
Date: Wed, 14 Jul 1999 22:06:58 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-30114-1999.07.14-22.13.31--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

This was one of those times that I did not get out the volt meter to double
check. I may try to borrow a storage scope from work soon and see what kind
of spikes the Saturn puts out on the dc power when I start the car, turn
on/off the a/c and rear defroster. The a/c has a surge suppression diode
but it only covers the coil on the clutch and not the rest of the system. I

think the defroster does too but I am confident that not all the spikes are
getting stopped.

73, Guy Story
kc5goi@kc5goi.net
http://www.kc5goi.net
940.243.0754
----- Original Message -----
From: Jeff King <jeff@aerodata.net>
To: TAPR PIC Development Special Interest Group <picsig@lists.tapr.org>
Sent: Wednesday, July 14, 1999 8:53 PM
Subject: [picsig] Re: reverse voltaged

> Sorry to hear about your board Guy.
>
> KC5GOI wrote:
>
> >
> >   Steve B, if this had to happen I wish it had before we released the
2nd
> > rev of the board. I would have suggested a diode to help prevent this
from
> > happening.
>
> Its my understanding the 2nd rev has a series connected diode added to it.
I
> think
> this was added to prevent resets in a automobile during cranking, but it
has the
>
> side benefit of not allowing reverse connection of power to the unit. BTW,
those
> that
> want to run these in a automobile might want to increase the value of the
cap
> after this
> diode, I think its only 1uf and this will not give very long hold-up time.
I'd
> suggest
> something of 220uf or higher here.
>
> 73
>
> Jeff
>
>
>
> ---
> You are currently subscribed to picsig as: kc5goi@infospeedway.net
> To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

---
You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

25. [picsig] Re: Help! Can't program

From: "Jim K." <jimbok@i-2000.com>
Date: Wed, 14 Jul 1999 23:20:51 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-30115-1999.07.14-22.25.31--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Thanks for the info. It was my thoughts that it had something to do with
"sloppy" timing on laptops. I will check the voltage levels during a data
stream and see how a laptop compares with a desktop. I use the Max233 chip,
as my RS-232 driver receiver. Is there something better? I plan to plug my
pic projects into laptops so I want to insure that my project can handle the
real world.

Jim

 >
>Hello Jim,
>
>It's because laptop makers take liberties with the serial port hardware.
>The RS-232 levels are suppose to be + and - 5 to 12 volts. The large

>voltages are so that the signals can travel long distances. Noise can add
>a few millivolts to the signal, but at such a high signal level, it gets
lost.
>

 Jim Krutzler A.K.A. "Jimbo K"

 Home Page:
 http://www.i2.i-2000.com/~jimbok

 mailto:jimbok@i-2000.com   mailto:kb2uoi@amsat.org
 Ham Radio call: KB2UOI Phone/Fax 732.248.4479

 Attitude is Everything!

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26. [picsig] Re: Looky here...

From: "Sam Guccione" <sguccion@outland.dtcc.edu>
Date: Thu, 15 Jul 1999 11:58:22 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-30174-1999.07.15-11.06.25--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

WOW!!!

I want a web server on a pic and a tcpip server on a pic and an igate on a
pic and a ....

This is impressive.

Sam

-----Original Message-----
From: Steve Dimse <sdimse@netrox.net>
To: TAPR PIC Development Special Interest Group <picsig@lists.tapr.org>
Date: Wednesday, July 14, 1999 6:17 PM
Subject: [picsig] Looky here...

>
>How about a web server on a pic? See:
>
>http://www-ccs.cs.umass.edu/~shri/iPic.html
>
>As slashdot pointed out, there is no code, so it may not be real...
>
>If it is real, we could do a IGate on a PIC...
>
>Steve K4HG
>
>
>---
>You are currently subscribed to picsig as: sguccion@outland.dtcc.edu
>To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org
>

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27. [picsig] GPGGA support in pic e

From: Doug Bade <doug@clecom.com>
Date: Thu, 15 Jul 1999 14:50:50 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-30188-1999.07.15-13.58.45--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Has either version of pic e firmware been adapted to GPGGA sentence for pos
info?
I have not looked into it but I have recently aquired a lot of trimble
sveesix's, and the do not output rmc native..
                                        tnx.. doug KB8GVQ
                                        Doug Bade

doug@clecom.com

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

28. [picsig] Re: GPGGA support in pic e

From: John Hansen <john@hansen.net>
Date: Thu, 15 Jul 1999 15:14:04 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-30190-1999.07.15-14.23.32--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 02:50 PM 7/15/99 -0400, you wrote:
>Has either version of pic e firmware been adapted to GPGGA sentence for pos
>info?
>I have not looked into it but I have recently aquired a lot of trimble
>sveesix's, and the do not output rmc native..
>   tnx.. doug KB8GVQ
>   Doug Bade
>   doug@clecom.com

PIC-E-2 does not. I wrote it using a Tripmate, which, if I'm not mistaken
doesn't support it. Take a look at the source code. My guess is that it
could be modified to do this with a lot of difficulty.

John, W2FS

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

29. [picsig] Re: GPGGA support in pic e

From: Jeff King <jeff@aerodata.net>
Date: Thu, 15 Jul 1999 16:34:09 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-30199-1999.07.15-15.38.40--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

John Hansen wrote:

(On modifing the PIC-E from decoding $GPRMC to $GPGGA frames.)

>
> doesn't support it. Take a look at the source code. My guess is that it
> could be modified to do this with a lot of difficulty.

I think you meant to say: "could be modified to do this withOUT a lot of
difficulty"?

-Jeff

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30. [picsig] Re: GPGGA support in pic e

From: John Hansen <john@hansen.net>
Date: Thu, 15 Jul 1999 16:36:59 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-30201-1999.07.15-15.46.13--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 04:34 PM 7/15/99 -0400, you wrote:

>John Hansen wrote:
>
>(On modifing the PIC-E from decoding $GPRMC to $GPGGA frames.)
>
> >
> > doesn't support it. Take a look at the source code. My guess is that it
> > could be modified to do this with a lot of difficulty.
>

>I think you meant to say: "could be modified to do this withOUT a lot of
>difficulty"?
>
>
>-Jeff

Thanks, Jeff. It's been a long day and I'm pretty tired! I appreciate the
correction.

John

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

31. [picsig] Re: GPGGA support in pic e

From: "Steven R. Bible" <srbible@gate.net>
Date: Thu, 15 Jul 1999 17:08:57 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-30207-1999.07.15-16.16.54--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 02:50 PM 7/15/99 -0400, you wrote:
>Has either version of pic e firmware been adapted to GPGGA sentence for pos
>info?
>I have not looked into it but I have recently aquired a lot of trimble
>sveesix's, and the do not output rmc native..

As John Hansen said (or he ment to say :-), is that the programs can be
modified. But for the MIC-E compressed format you need speed and the GGA
sentance does not give you that. Thus the RMC has been used.

This is not to say you can't do any of this. Just find speed in another
sentence.

- Steve, N7HPR
  n7hpr@tapr.org
  n7hpr@amsat.org

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

32. [picsig] Re: Help! Can't program

From: "John B. Leonard, Jr." <jleonard@tbcnet.com>
Date: Thu, 15 Jul 1999 17:08:26 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-30220-1999.07.15-17.16.16--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Ok, now I've run this on 3 computers now, 1 laptop and 2 desktops. The last
one I hooked it right to the com port on the m/b.

On all three, I've gotten "Programmer Initialization Failed! Check
programmer and port!"

jb leonard jr/W9JBL
De Kalb IL
jleonard@tbcnet.com
----- Original Message -----
From: John Hansen <john@hansen.net>
To: TAPR PIC Development Special Interest Group <picsig@lists.tapr.org>
Sent: Wednesday, July 14, 1999 9:56 AM
Subject: [picsig] Re: Help! Can't program

> At 09:37 AM 7/14/99 -0500, you wrote:
> >I removed JP4, but no improvement.
> >
> >On the DB-9, P2, I have -9.4v on pin 3 and -11.4v on pin 4 from the
> >computer.
> >
> >I resoldered, checked for bridges, cleaned, etc.
> >

> >On Pg 8 the instructions say not to power the PIC during programming. I
> >think I had the PIC installed, but not connected to the computer for
> >programming, but I applied 12v.
> >
> >Did the instructions mean to say, "Don't apply power with the PIC
installed
> >prior to programming"?
>
> What the instructions mean is that you should not apply any power to the
> PIC-E when you are programming it. That is, all the power it needs comes
> from the computer that is doing the programming.
>
> If you are only reading 9.4 volts on pin 3, that could well be your
> problem. The RS-232 spec calls for this to be more like 12 volts, but
I've
> had success programming the PIC-E with serial ports that produce only
about
> 10 to 10.5 volts. I don't think I've been able to do it with 9.4. I
would
> suggest trying it on a desktop computer to see if it programs properly
> there. Chances are that is the only problem.
>
> John, W2FS
>
> ---
> You are currently subscribed to picsig as: jleonard@tbcnet.com
> To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

---
You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

33. [picsig] reverse voltaged pic-e

From: "KC5GOI" <kc5goi@kc5goi.net>
Date: Thu, 15 Jul 1999 18:01:35 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-30230-1999.07.15-18.08.27--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Great news everyone, the pic-e I thought I popped is online and working.
It is running Byon's mic-e code at this point.

73, Guy Story
kc5goi@kc5goi.net
http://www.kc5goi.net
940.243.0754

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

34. [picsig] Re: GPGGA support in pic e

From: byon@mail.com
Date: Thu, 15 Jul 1999 16:47:43 -0700
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-30237-1999.07.15-18.57.20--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On 15 Jul 99, at 14:50, Doug Bade wrote:

> Has either version of pic e firmware been adapted to GPGGA sentence for
> pos info? I have not looked into it but I have recently aquired a lot of
> trimble sveesix's, and the do not output rmc native..

PICE090 also only supports RMC, but it should be straightforward
to convert to GGA. I'd recommend just stopping decoding after the
position, and use 0 for speed and heading. If you have trouble
converting my ASM or John's C code, I will look into doing a GGA
version.

Byon
_____
 Byon Garrabrant   N6BG   byon@mail.com

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

35. [picsig] Re: Help! Can't program

From: John Hansen <john@hansen.net>
Date: Thu, 15 Jul 1999 23:10:13 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-30266-1999.07.15-22.19.32--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 05:08 PM 7/15/99 -0500, you wrote:
>Ok, now I've run this on 3 computers now, 1 laptop and 2 desktops. The last
>one I hooked it right to the com port on the m/b.
>
>On all three, I've gotten "Programmer Initialization Failed! Check
>programmer and port!"

It may be a bad chip, as Steve said. One other thing to try is to replace
resistor R1 with a diode (like a 1n914 or 1n4148). Put the band side
toward the PIC chip. This is what I've done to mine. It raises the
voltage on the MCLR pin and made the difference between it programming
consistently and not programming consistently.

John, W2FS

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36. [picsig] Ramtron report?

From: Jeff King <jeff@aerodata.net>
Date: Sat, 17 Jul 1999 03:34:01 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-30421-1999.07.17-02.40.12--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

All:

I know a couple of people on here had got the Ramtron serial FRAM's
but did anyone try them? And words on these, good or bad?

Thanks!

Jeff

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

37. [picsig] Flying into Phoenix

From: John Hansen <john@hansen.net>
Date: Sat, 17 Jul 1999 11:00:32 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-30448-1999.07.17-10.09.45--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

For the past three months I've been watching the airfares into Phoenix,
trying to figure out whether I would be able to attend this year's DCC or
not. Roundtrip airfare from my neck of the woods (Erie, PA, Buffalo,NY, or
even Cleveland) has been running over $400. As a result, until this week I
was pretty much resigned to the fact that I was going to have to miss it
this year. This week, for some strange reasons, fares from Cleveland (at
least at some times of the day) dipped to $208.

I thought I would drop a note to the group: If you've looked at airfares
over the past few months and concluded that the DCC is off the agenda this
year, take another look.   This appears to be the time to buy.

John, W2FS

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

38. [picsig] Re: Ramtron report?

From: "Jim Paul" <jamesp@intertex.net>
Date: Sat, 17 Jul 1999 12:30:52 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-30468-1999.07.17-12.36.55--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Well, I'm one of those who got the Ramtron chips. I started working on routines to use them with PIC's, but the last couple of weeks and probably the next few weeks have been and will be tied up at work with stuff there to do, so my work at home on these parts has been temporarily put on hold till I can free up some time. But what I have done so far seems to be working fine, and I believe these chips will make a nice alternative to floppy disks for PIC projects, although they won't be as readily movable between the PIC and a PC. I have seen that there is substantial interest in using a floppy drive with the PIC's. I too have thought this, and started a development effort to interface a floppy drive with a PIC using the IBM format so that they could be read with a PC. I will also continue this effort as time permits. I'll let everyone know when I come up with something viable in the floppy disk area, and in the Ramtron area.

Regards All,

Jim
-----Original Message-----
From: Jeff King <jeff@aerodata.net>
To: TAPR PIC Development Special Interest Group <picsig@lists.tapr.org>
Date: Saturday, July 17, 1999 2:32 AM
Subject: [picsig] Ramtron report?

>All:
>
>I know a couple of people on here had got the Ramtron serial FRAM's
>but did anyone try them? And words on these, good or bad?
>
>Thanks!
>
>Jeff
>
>
>
>---
>You are currently subscribed to picsig as: jamesp@intertex.net
>To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org
>

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

39. [picsig] Re: Ramtron report?

From: byon@mail.com
Date: Sat, 17 Jul 1999 11:40:19 -0700
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-30473-1999.07.17-13.51.01--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On 17 Jul 99, at 3:34, Jeff King wrote:

> All:
>
> I know a couple of people on here had got the Ramtron serial FRAM's
> but did anyone try them? And words on these, good or bad?
>
> Thanks!

I got a hold of a few of both the I2C and the SPI version, with plans to build a more complete TNC. Although I haven't really made progress on this project, I did begin on a LCD display project

requiring a few K of RAM, so I used the SPI version. It's working
great! It took a little effort to get the protocol right, but I now have
nice stand alone routines to read and write. And, I understand
larger version (possiblily up to 1Meg) are in the coming future.

Byon

_____
 Byon Garrabrant   N6BG   byon@mail.com

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

40. [picsig] 4 layer quick turn PCB?

From: Jeff King <jeff@aerodata.net>
Date: Mon, 19 Jul 1999 01:51:32 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-30602-1999.07.19-00.57.42--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi:

Sorry for the (I hope) slightly off topic post.

I'm looking for a quick turn PCB house that can do 4 layer boards. I
generally use APcircuits, but they only do 2 layer boards. Would need
soldmask (SMD board) and design rules are 8/8.

Thanks for any referrals.

Jeff King wb8wka

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

41. [picsig] Re: Ramtron report?

From: "Hall, Erik (Exchange)" <erik.hall@bear.com>
Date: Mon, 19 Jul 1999 11:25:31 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-30647-1999.07.19-10.40.36--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Would you, could you post these routines somewhere.....Sounds like a project
I'd like to start getting into....

-Erik

> -----Original Message-----
> From: byon@mail.com [SMTP:byon@mail.com]
> Sent: Saturday, July 17, 1999 2:40 PM
> To: TAPR PIC Development Special Interest Group
> Subject: [picsig] Re: Ramtron report?
>
> On 17 Jul 99, at 3:34, Jeff King wrote:
>
> > All:
> >
> > I know a couple of people on here had got the Ramtron serial FRAM's
> > but did anyone try them? And words on these, good or bad?
> >
> > Thanks!
>
> I got a hold of a few of both the I2C and the SPI version, with plans
> to build a more complete TNC. Although I haven't really made
> progress on this project, I did begin on a LCD display project
> requiring a few K of RAM, so I used the SPI version. It's working
> great! It took a little effort to get the protocol right, but I now have
> nice stand alone routines to read and write. And, I understand
> larger version (possiblily up to 1Meg) are in the coming future.
>
> Byon
> _____

> Byon Garrabrant N6BG byon@mail.com
>
>
>
> ---
> You are currently subscribed to picsig as: erik.hall@bear.com
> To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

****
Bear Stearns is not responsible for any recommendation, solicitation,
offer or agreement or any information about any transaction, customer
account or account activity contained in this communication.
****

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

42. [picsig] Re: 4 layer quick turn PCB?

From: "Jim K." <jimbok@i-2000.com>
Date: Mon, 19 Jul 1999 20:45:29 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-30731-1999.07.19-19.50.27--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi,

I too would like to know where everyone is getting there project boards
done, Some vendors that I have called quoted HUGE pricing for small runs.
($150 for the first 4x6 inch board) Some want a min of 100 pcs. I have
been using Atlas Circuits out of North Carolina, the price is ok, but it
takes 9-12 days to get something back. ($10 photo charge, 2cents hole, 79
cents per sq inch, anysize board,).

I have never done any multi layer boards so I can't help there, only two
side. How has APcircuits treated you in the past? Price? Turnaround time?

Jim Krutzler A.K.A. "Jimbo K"

Home Page:
http://www.i2.i-2000.com/~jimbok

mailto:jimbok@i-2000.com mailto:kb2uoi@amsat.org
Ham Radio call: KB2UOI Phone/Fax 732.248.4479

Attitude is Everything!

>Hi:
>
>Sorry for the (I hope) slightly off topic post.
>
>I'm looking for a quick turn PCB house that can do 4 layer boards. I
>generally use APcircuits, but they only do 2 layer boards. Would need
>soldmask (SMD board) and design rules are 8/8.
>
>Thanks for any referrals.
>
>Jeff King wb8wka
>
>

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

43. [picsig] Re: 4 layer quick turn PCB?

From: Jeff King <jeff@aerodata.net>
Date: Mon, 19 Jul 1999 21:46:45 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-30740-1999.07.19-20.51.03--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

"Jim K." wrote:

> I too would like to know where everyone is getting there project boards

> done,

> I have never done any multi layer boards so I can't help there, only two
> side. How has APcircuits treated you in the past? Price? Turnaround time?

APcircuits (http://www.apcircuits.com) has treated me quite well. Never had
a problem with them, they are quick and the price is cheap. Only down side
is the quick turn service doesn't offer soldermask or silkscreen. You also need
to
use their drill set or you'll get a higher charge. But I use them all the time
(expect
now I need a 4 layer board... and they don't do that :-(

Expect to pay about $100 for two 5X6 double sided plated through hole
boards. Prices go down with larger qty., but for much more then 10-20
pieces, its cheaper to go with conventional PCB houses. But you can't
beat them for small qty. runs.

-Jeff

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

44. [picsig] Simple PIC-E programmable beacon

From: "Mike Berg" <mikeberg@midstate.tds.net>
Date: Mon, 19 Jul 1999 21:37:38 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-30746-1999.07.19-21.47.50--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I recently submitted an assembly language program for the PIC-E platform
that allows the user to manually transmit a pre-programmed beacon.
It's called ezpicpkt.zip and is located in the /software directory.
If you can't find it, try refreshing the page - worked for me :)

I wrote it as a way to teach myself the in's and out's of doing packet with
a
PIC. The result is a simple, single program that novice programmers like
myself can follow and understand. Like many, I cut my teeth on the "Easy
PIC'in" and "PIC'n up the Pace" primers by David Benson.
When I first looked at the PIC-E assembly programs, there was an awfull lot
of stuff I'd never seen before, so it was back to the books, this time the
MPASM docs. Between them and a few questions here on the reflector, I
soon had a basic grasp of what was going on. At that point, I decided to
break it down into a single program with a single purpose, which
incorporated
all the steps needed to send a valid packet. That way the reader could
follow
the whole process, beginning to end, in four pages.
It can also serve as the basis for a more usefull application, all depending
on
your imagination and how much code you want to write.

The program must be first edited by changing MYCALL to your own.
This can be found in the dt (define table) section near the beginning.
The call MUST have 6 charactors between the quotation marks.
Add spaces if the programmed call is shorter.
The SSID's are in ASCII hex, H30 = 0, H3F = 15
The default digis are RELAY-0,WIDE-0,WIDE-0 and can be changed to suit.
The info field can be whatever you want. The program sends until it sees
the
zero in the data.

Then you assemble your edited copy of ezpicpkt.asm with the MPASM
assembler program (ASM22000.ZIP) which is on TAPR's website.
You then install the program in the PIC-E.
I did it using PICPRGM loaded with ezpicpkt.hex, the hex file MPASM makes.

Operation is straightforward - connect it to the radio and power like normal
with the GPS disconnected and the leftmost switch (SW1) toggled right.
Flip SW1 left until the amber, valid led lites, then right to send the
packet.
A DCD routine is included in the program, so it shouldn't step on anyone.

I hope this inspires some other budding programmers to come out with

their own neat apps for PIC packet.

73, Mike Berg N0QBH   Spicer, MN

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

45. [picsig] Re: Simple PIC-E programmable beacon

From: "Jim Paul" <jamesp@intertex.net>
Date: Mon, 19 Jul 1999 21:51:21 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-30747-1999.07.19-21.57.18--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I missed something here. What page?

regards,

Jim
-----Original Message-----
From: Mike Berg <mikeberg@midstate.tds.net>
To: TAPR PIC Development Special Interest Group <picsig@lists.tapr.org>
Date: Monday, July 19, 1999 9:40 PM
Subject: [picsig] Simple PIC-E programmable beacon

>
>I recently submitted an assembly language program for the PIC-E platform
>that allows the user to manually transmit a pre-programmed beacon.
>It's called ezpicpkt.zip and is located in the /software directory.
>If you can't find it, try refreshing the page - worked for me :)
>
>I wrote it as a way to teach myself the in's and out's of doing packet with
>a
>PIC. The result is a simple, single program that novice programmers like
>myself can follow and understand. Like many, I cut my teeth on the "Easy
>PIC'in" and "PIC'n up the Pace" primers by David Benson.
>When I first looked at the PIC-E assembly programs, there was an awfull lot
>of stuff I'd never seen before, so it was back to the books, this time the
>MPASM docs. Between them and a few questions here on the reflector, I
>soon had a basic grasp of what was going on. At that point, I decided to
>break it down into a single program with a single purpose, which
>incorporated
>all the steps needed to send a valid packet. That way the reader could
>follow
>the whole process, beginning to end, in four pages.
>It can also serve as the basis for a more usefull application, all
depending
>on
>your imagination and how much code you want to write.
>
>The program must be first edited by changing MYCALL to your own.
>This can be found in the dt (define table) section near the beginning.
>The call MUST have 6 charactors between the quotation marks.
>Add spaces if the programmed call is shorter.
>The SSID's are in ASCII hex, H30 = 0, H3F = 15
>The default digis are RELAY-0,WIDE-0,WIDE-0 and can be changed to suit.
>The info field can be whatever you want. The program sends until it sees
>the
>zero in the data.
>
>Then you assemble your edited copy of ezpicpkt.asm with the MPASM
>assembler program (ASM22000.ZIP) which is on TAPR's website.
>You then install the program in the PIC-E.
>I did it using PICPRGM loaded with ezpicpkt.hex, the hex file MPASM makes.
>
>Operation is straightforward - connect it to the radio and power like
normal
>with the GPS disconnected and the leftmost switch (SW1) toggled right.
>Flip SW1 left until the amber, valid led lites, then right to send the
>packet.
>A DCD routine is included in the program, so it shouldn't step on anyone.
>
>I hope this inspires some other budding programmers to come out with
>their own neat apps for PIC packet.
>
>73, Mike Berg N0QBH   Spicer, MN

>
>
>---
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>

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46. [picsig] Fwd: ActiveWire USB Interface Kit ***

From: "Brian B. Riley" <brianbr@macconnect.com>
Date: Tue, 20 Jul 1999 20:15:29 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-30885-1999.07.20-19.24.08--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I thought this might be of interest to our "hackers" ... 73 de brian,
ka2bqe

---------- Begin Forwarded Message ----------
Date: 7/19/99 11:30 PM
Received: 7/20/99 6:45 PM
From: MacDev-1 Moderator, MacDev-1@listmail.mactech.com
To: MacDev-1 (Moderated), MacDev-1@listmail.xplain.com

This message comes to you from MacDev-1(tm).
See below for more info on this list (including sub/unsub details).
_____

FOR IMMEDIATE RELEASE

ActiveWire, Inc. Announces a Universal Serial Bus (USB) Interface
Kit, ActiveWire(TM)-USB

PALO ALTO -- July 19, 1999 /Xpress Press/ -- ActiveWire, Inc., an
embedded technology company, announced the immediate availability of
its Universal Serial Bus (USB) interface kit, ActiveWire-USB.

ActiveWire-USB kit consists of example software and interface
hardware with programmable input/output pins that can interface to
many devices such as switches and LEDs. ActiveWire -USB allows
hobbyists and engineers to easily connect devices to the ubiquitous
USB interface instead of the old, slow RS-232 and parallel
interfaces. Applications include interfacing a pan/tilt head for a
small camera, robots, automating various high speed electronic
devices, and computer interface education.

"When I first tried to connect devices to USB, it was not easy," says
Mato Hattori, president of ActiveWire, Inc. "I decided to provide a
quick and easy way to interface to USB for engineers and hobbyists,
like me." Mato continues; "With ActiveWire-USB you can start
controlling your device from USB in moments instead of days."
ActiveWire-USB has the following features:
* Easily programmable with software development tools
* 24 MHz CPU core with USB
* Firmware downloadable via USB
* 16 bit parallel input/output
* Expandable add-on boards
* New firmware and scripts available from website
(http://www.ActiveWireInc.com)
* $59 + shipping and handling

ActiveWire-USB can be programmed from browser script (JavaScript) on
PC running Windows (R) 98. This feature will be available for
Macintosh in the near future. ActiveWire, Inc. can offer interface
design kits for other interface standards as well as drivers for
FreeBSD.

ActiveWire, Inc. was founded as a PicoStar company two years ago to
develop interface technologies that enhance the connectivity of
devices to personal computers and the Internet.

PicoStar, LLC is an incubator organization, providing funding and
support services for the startup of advanced technology companies.
PicoStar, LLC currently holds four businesses: NetEyes, Inc.,
ActiveWire, Inc., iWrap, and United Earth Networks. "A new business

can work more efficiently in an environment where all share resources
and stimulate each other," says Eric T. Brewer, president of
PicoStar, LLC.

Consumers can order ActiveWire-USB directly from ActiveWire, Inc. via
the Internet at http://www.ActiveWireInc.com/. Dealers and companies
interested in OEM arrangements can make inquiries to Eric T. Brewer
of PicoStar, LLC.
CONTACT:
Eric T. Brewer
President, PicoStar, LLC
650-493-4900
Eric@PicoStar.com
or
Mato Hattori
President, ActiveWire, Inc.
650-493-8700 (ext. 204)
Mato@ActiveWireInc.com

For more information on USB contact http://www.ActiveWireInc.com/USB.htm.

_____
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----------------- End Forwarded Message -----------------

Brian B. Riley --> http://members.macconnect.com/~brianbr
 For PGP Keys <mailto:brianbr@wulfden.org?subject=Get%20PGP%20Key>

 "If you see a man approaching you with the obvious intention   of doing
  you good, you should run for your life." Robert Heinlien's Lazarus Long

---
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47. [picsig] IC master online now

From: Jeff King <jeff@aerodata.net>
Date: Thu, 22 Jul 1999 16:42:53 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-31118-1999.07.22-16.07.58--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Since we have more then a few hackers on here,
I thought this might be relevant. Hope its not old
news to everyone.

ICMaster is that big (and expensive) chip selection
directory/CD-ROM. Now they have gone online:

http://icmaster.com.

and they don't charge. I ran a few checks on it, and
it did manage to find the MX-COM bell 202 parts as
well as others. So it seems to be a full version of IC
master.

Just another link for your toolbox.

-Jeff wb8wka

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

48. [picsig] Good MicroChip reps?

From: Jeff King <jeff@aerodata.net>
Date: Thu, 22 Jul 1999 20:08:17 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-31122-1999.07.22-19.34.18--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

(don't post this on other lists)

I'm wonder what experience people have had dealing with
the MicroChip reps and direct sales in there area? I know a
few of you have been able to get samples, so that is why I
ask.

Does the rep return your call when you have a question?
Has anyone got a sample of a 16c876 yet?
Do you feel the the rep values your business?
Do they offer to stop by?
Do they give you timely quotes?

My distributor told me today that the MicroChip sales office
in Detroit is one of the worst in the country for customer service
and I was not alone in my dissatisfaction with their (lack of) service.
Apparently they only have a interest in the 1,000,000+ accounts
(auto companies) and ignore the little guys like me (and I bought
over $20,000 of MC parts last year!).

I know more then a few of your have contacted MC directly, and
wondered what your results were. Please feel free to send me
private e-mail if you wish.

Thanks!

Jeff

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

49. [picsig] Re: Ramtron report?

From: James Jefferson <jjeffers@deskmedia.com>
Date: Fri, 23 Jul 1999 00:42:47 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-31161-1999.07.23-00.44.44--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>I know a couple of people on here had got the Ramtron serial FRAM's
>but did anyone try them? And words on these, good or bad?

Good stuff... I've written well over a million bytes to one... I think I
have source code for CCS PCM at:
http://www.deskmedia.com/~jjeffers/packet/

Take care,

-James Jefferson KB0THN

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

50. [picsig] PIC-E Construction and Use

From: "clemens" <clemens@wvwc.edu>
Date: Fri, 23 Jul 1999 08:37:58 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-31182-1999.07.23-07.51.05--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Just finished the construction of my PIC-E board to interface my Ultimeter
2000 Weather Station to the APRS network and offer the following.

Errors? in Construction Notes: (Written 2.99 Rev 1 5.99)

1. Drawing of J4,J5,J6 on page 11 and on page 14 has the columns marked J5
J6 J4 which should be J6 J4 J5

2. Instruction on page 12 says "Set the MODE SW to the right. PTT LED should
light and the radio starts transmitting." (right should be left)

3. Instruction on page 12 says "Set the MODE SW to the left." (left should
be right)

Construction Hint:
You can save time by installing the 2,3, and 8 pin male headers just after
the IC Sockets and before the Trimpot. In this new order the headers are
the highest item on the board and your work surface will support them while
you solder the bases.

Great kit, works great too!

--
Rich Clemens, KB8AOB
kb8aob@aol.com
clemens@wvwc.edu

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51. [picsig] Confirm value of R3

From: "Rejean Letourneau" <rej.letourneau@sympatico.ca>
Date: Mon, 26 Jul 1999 21:25:56
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-31609-1999.07.26-21.34.24--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I just finished with the parts list check of my kit and I
noticed that the value for R3 in the list shows 10 K ohms
and the schematic shows R3-22K ohms. Could you confirm the
right value for R3. Thank you.

73,
Rejean VE3MPV

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

52. [picsig] TX Retimming

From: James Jefferson <jjeffers@deskmedia.com>
Date: Mon, 26 Jul 1999 22:06:29 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-31613-1999.07.26-22.08.39--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hello everyone,

I implemented the TX bit retimmming this evening. It is really easy to do,
and should fix any timming problems. This code should fit into John's DCC
paper skeleton okay. You will need to set the CLK line to low initally.

If you want to try this on your PIC-E board, then I would suggest using RB6
and RB7 for RDY and CLK.

Have fun and 73's,

-James Jefferson KB0THN
jjeffers@deskmedia.com
http://www.deskmedia.com/~jjeffers/

```
void delay_modem(void)  /* Uses the MX614 data retiming */
```

```
{
do { } while (0 != input(MX_RDY)); /* Wait for RDY to go low */
}

void setout(bit i)      /* 1 to leave output the same, 0 to flip */
{
stuff = 0;
if (i == bit_test(port_b,3))            /* pin_b3 */
        {
        output_high(TX_DATA);
        output_high(MX_CLK);
        delay_us(2);
        output_low(MX_CLK);
        } else {
        output_low(TX_DATA);
        output_high(MX_CLK);
        delay_us(2);
        output_low(MX_CLK);
        }
}

---
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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org
```

53. [picsig] Re: Confirm value of R3

From: James Jefferson <jjeffers@deskmedia.com>
Date: Mon, 26 Jul 1999 22:08:50 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-31614-1999.07.26-22.11.23--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

```
>I just finished with the parts list check of my kit and I
>noticed that the value for R3 in the list shows 10 K ohms
>and the schematic shows R3-22K ohms.  Could you confirm the
>right value for R3. Thank you.

I'm using a 10k. Either value should work fine.

72.5's,

-James Jefferson KB0THN
jjeffers@deskmedia.com
http://www.deskmedia.com/~jjeffers/

---
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```

54. [picsig] Pic E R1 swap for 1n914

From: Doug Bade <doug@clecom.com>
Date: Tue, 27 Jul 1999 16:26:21 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-31742-1999.07.27-15.33.22--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

```
There was discussion on changing this resistor in the pic e to a diode for
the pic project.
        I hate to look dumb, but which way was the cathode supposed to go?, was it
to pull down the vcc or limit the rs232 input/ mclr ?

                The w2fs programmer is not working on my unit but the pic prog.exe
does... It looked like that diode has something to do with the fix???
Tnx. Doug KB8GVQ
                                        Doug Bade
                              doug@clecom.com


---
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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org
```

55. [picsig] Re: Pic E R1 swap for 1n914

From: John Hansen <john@hansen.net>
Date: Tue, 27 Jul 1999 17:48:35 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-31756-1999.07.27-16.59.09--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 04:26 PM 7/27/99 -0400, you wrote:
>   There was discussion on changing this resistor in the pic e to a
> diode for
>the pic project.
>   I hate to look dumb, but which way was the cathode supposed to
> go?, was it
>to pull down the vcc or limit the rs232 input/ mclr ?
>
>   The w2fs programmer is not working on my unit but the pic
> prog.exe
>does... It looked like that diode has something to do with the fix???
>Tnx. Doug KB8GVQ
>   Doug Bade

The cathode (band) goes toward the F84. If PICPROG is working you
undoubtedly have it hooked up correctly. The reason PICPROG works but the
W2FS programmer doesn't on some computer is (I believe) that they use two
different approaches to doing the programming. I think that PICPROG writes
to the port directly, while GPS-2-E uses Windows API calls.   The
disadvantage is that this doesn't work on some computers. The advantage is
that it will run under Windows NT.

If GPS-2-E will not program on your computer, you can still use it to
create the .HEX file which can be uploaded using PICPROG (or other
programming software).

John W2FS

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

56. [picsig] Re: Pic E R1 swap for 1n914

From: Doug Bade <dbade@clecom.com>
Date: Tue, 27 Jul 1999 18:31:01 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-31762-1999.07.27-17.38.54--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 05:48 PM 7/27/99 -0400, you wrote:
        On My PIC schematic , r1 is between 5v (pin14), and pin 4 the MCLR.. I
assume you mean cathode to pin 4.. :)

        BTW this is an NT 4.0 Box, and the programmer from the W2FS front end gui
gives verify error. I tried under 95 same thing.
This desktop PC is an amd k6-300, with 16550 uarts. I tried another comm
board with 16550's same result.

I tried diode,still not working I get a verify error, the green power led
flashes on old pic-e and my unit, new pic-e no flash.
3 units;
 pic-e ver 1, pic-e ver 2, and my pic-e clone circuit...all verify fail..
I will have to check on another non amd cpu...

 in any case pic prog .exe worked fine on my win 98 box, under dos, so the
board seems to be ok .. just having trouble with gpse2c..

>At 04:26 PM 7/27/99 -0400, you wrote:
>>   There was discussion on changing this resistor in the pic e to a
>> diode for
>>the pic project.
>>   I hate to look dumb, but which way was the cathode supposed to
>> go?, was it
>>to pull down the vcc or limit the rs232 input/ mclr ?
>>
>>   The w2fs programmer is not working on my unit but the pic
>> prog.exe
>>does... It looked like that diode has something to do with the fix???
>>Tnx. Doug KB8GVQ
>>   Doug Bade
>
>
>The cathode (band) goes toward the F84. If PICPROG is working you
>undoubtedly have it hooked up correctly. The reason PICPROG works but the
>W2FS programmer doesn't on some computer is (I believe) that they use two
>different approaches to doing the programming. I think that PICPROG writes
>to the port directly, while GPS-2-E uses Windows API calls.   The
>disadvantage is that this doesn't work on some computers. The advantage is

>that it will run under Windows NT.
>
>If GPS-2-E will not program on your computer, you can still use it to
>create the .HEX file which can be uploaded using PICPROG (or other
>programming software).
>
>John W2FS
>
>---

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

57. [picsig] Re: Confirm value of R3

From: "Steven R. Bible" <srbible@gate.net>
Date: Tue, 27 Jul 1999 18:56:53 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-31783-1999.07.27-18.04.41--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 09:25 PM 7/26/99, you wrote:
>I just finished with the parts list check of my kit and I
>noticed that the value for R3 in the list shows 10 K ohms
>and the schematic shows R3-22K ohms. Could you confirm the
>right value for R3. Thank you.

Rejean,

The schematic is incorrect. It should be 10K ohms.

Thanks for the correction.

- Steve, N7HPR
  n7hpr@tapr.org
  n7hpr@amsat.org

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58. [picsig] Size of PIC-E circuit board?

From: "Zhahai Stewart" <zhahai@hisys.com>
Date: Tue, 27 Jul 1999 23:43:34 -0700
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-31824-1999.07.28-00.52.27--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I cannot find in the instructions just how large the PIC-E circuit board
is (dimensions). Can somebody tell me? (I want to leave space in a
small cabinet containing other things).

Thanks,
  Zhahai

@ Zhahai Stewart   zhahai@hisys.com
@ A Meme Gardener   http://rainbow.rmi.net/~hisys/zhahai.html
@ Standard Disclaimer YMMV - Your Maya May Vary

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59. [picsig] Re: Size of PIC-E circuit board?

From: James Jefferson <jjeffers@deskmedia.com>
Date: Wed, 28 Jul 1999 01:10:25 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-31827-1999.07.28-01.16.41--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>I cannot find in the instructions just how large the PIC-E circuit board
>is (dimensions). Can somebody tell me? (I want to leave space in a
>small cabinet containing other things).

Zhahai, you are in luck. I just happen to have my calipeters (alebit
english units) and my PICE within reach. The board measures 3.25" x 3.25".
With the RJ-45 connectors protruding that goes to 3.6" x 3.25".

I have a board that is different dimmensions. 2" X 5", with DB9F protruding
makes it 5.5" x 2". Later today (IE after I go to bed and wake up) I will
release the details of it.

Have fun,

-James Jefferson KB0THN
jjeffers@deskmedia.com
http://www.deskmedia.com/~jjeffers/

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

60. [picsig] Re: Pic E R1 swap for 1n914

From: John Hansen <john@hansen.net>
Date: Wed, 28 Jul 1999 09:35:45 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-31850-1999.07.28-08.46.11--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 06:31 PM 7/27/99 -0400, you wrote:
>At 05:48 PM 7/27/99 -0400, you wrote:
>   On My PIC schematic , r1 is between 5v (pin14), and pin 4 the
> MCLR.. I
>assume you mean cathode to pin 4.. :)
>
>   BTW this is an NT 4.0 Box, and the programmer from the W2FS front
> end gui
>gives verify error. I tried under 95 same thing.
>This desktop PC is an amd k6-300, with 16550 uarts. I tried another comm
>board with 16550's same result.

I've not had a lot a reports of a failure to program, but I went around my
college campus and tried it on about a dozen machines. The only ones with
consistent problems were AMD processors. (And no, this is not related to
the fact that I own stock in Intel!). I also experienced some problems on
some computers with Celeron processors

>I tried diode,still not working I get a verify error, the green power led
>flashes on old pic-e and my unit, new pic-e no flash.
>3 units;
> pic-e ver 1, pic-e ver 2, and my pic-e clone circuit...all verify fail..
>I will have to check on another non amd cpu...
>
> in any case pic prog .exe worked fine on my win 98 box, under dos, so the
>board seems to be ok .. just having trouble with gpse2c..

Please do drop me a note and let me know the results with other PC's. I
find this fascinating that the problem seems to revolve around processors
of a specific type.

John, W2FS

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61. [picsig] Re: Pic E R1 swap for 1n914

From: John Rauch <n4jhr@earthlink.net>
Date: Wed, 28 Jul 1999 12:41:21 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-31873-1999.07.28-11.47.07--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

John, I have used it with an AMD 300 and an AMD 450 M-II machine with no
problem. However, on the motherboards, there were Intel chip sets for the
I/O.

John

At 09:35 AM 7/28/1999 -0400, you wrote:
>At 06:31 PM 7/27/99 -0400, you wrote:
>>At 05:48 PM 7/27/99 -0400, you wrote:
>>   On My PIC schematic , r1 is between 5v (pin14), and pin 4 the
>> MCLR.. I
>>assume you mean cathode to pin 4.. :)
>>
>>   BTW this is an NT 4.0 Box, and the programmer from the W2FS front
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>>gives verify error. I tried under 95 same thing.
>>This desktop PC is an amd k6-300, with 16550 uarts. I tried another comm
>>board with 16550's same result.
>
>
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>college campus and tried it on about a dozen machines. The only ones with
>consistent problems were AMD processors. (And no, this is not related to
>the fact that I own stock in Intel!). I also experienced some problems on
>some computers with Celeron processors
>
>
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>>flashes on old pic-e and my unit, new pic-e no flash.
>>3 units;
>> pic-e ver 1, pic-e ver 2, and my pic-e clone circuit...all verify fail..
>>I will have to check on another non amd cpu...
>>
>> in any case pic prog .exe worked fine on my win 98 box, under dos, so the
>>board seems to be ok .. just having trouble with gpse2c..
>
>Please do drop me a note and let me know the results with other PC's. I
>find this fascinating that the problem seems to revolve around processors
>of a specific type.
>
>John, W2FS
>
>---
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>To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org
>
>
>
John Rauch, Control Operator for
Amateur Radio Station N4JHR
c/o 1450 West Lake Brantley Road
Longwood, Florida 32779-4766
(407)869-1450, (407)869-6658 Fax
n4jhr@eamil.com
Lat. N28 41.128, Lon. W081 26.155

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62. [picsig] Re: Pic E R1 swap for 1n914

From: "Brian B. Riley" <brianbr@macconnect.com>
Date: Wed, 28 Jul 1999 17:30:23 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-31905-1999.07.28-16.38.59--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hmmm after all this, I want to try it out on my MacIntosh Performa 6400
w/G3 card running Win 95 and or DOS 6.22 under VPC 2.1.3 ... oughta be
enlightening to see how that works or doesn't as the case may be.

On 7/28/99 9:35 AM, John Hansen (john@hansen.net) passed this wisdom:

>At 06:31 PM 7/27/99 -0400, you wrote:
>>At 05:48 PM 7/27/99 -0400, you wrote:
>>   On My PIC schematic , r1 is between 5v (pin14), and pin 4 the
>> MCLR.. I
>>assume you mean cathode to pin 4.. :)
>>
>>   BTW this is an NT 4.0 Box, and the programmer from the W2FS front
>> end gui
>>gives verify error. I tried under 95 same thing.
>>This desktop PC is an amd k6-300, with 16550 uarts. I tried another comm
>>board with 16550's same result.
>

>
>I've not had a lot a reports of a failure to program, but I went around my
>college campus and tried it on about a dozen machines. The only ones with
>consistent problems were AMD processors. (And no, this is not related to
>the fact that I own stock in Intel!). I also experienced some problems on
>some computers with Celeron processors
>
>
>>I tried diode,still not working I get a verify error, the green power led
>>flashes on old pic-e and my unit, new pic-e no flash.
>>3 units;
>> pic-e ver 1, pic-e ver 2, and my pic-e clone circuit...all verify fail..
>>I will have to check on another non amd cpu...
>>
>> in any case pic prog .exe worked fine on my win 98 box, under dos, so the
>>board seems to be ok .. just having trouble with gpse2c..
>
>Please do drop me a note and let me know the results with other PC's. I
>find this fascinating that the problem seems to revolve around processors
>of a specific type.
>
>John, W2FS
>
>---
>You are currently subscribed to picsig as: brianbr@macconnect.com
>To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org
>

Brian B. Riley --> http://members.macconnect.com/~brianbr
  For PGP Keys <mailto:brianbr@wulfden.org?subject=Get%20PGP%20Key>

  "I have got no further than this: Every man has a right to utter what he
   thinks truth, and every other man has a right to knock him down for it.
   Martyrdom is the test."   Samuel Johnson, 1780

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63. [picsig] Re: Pic E R1 swap for 1n914

From: John Hansen <john@hansen.net>
Date: Wed, 28 Jul 1999 17:33:58 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-31906-1999.07.28-16.44.26--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 12:41 PM 7/28/99 -0400, you wrote:
>John, I have used it with an AMD 300 and an AMD 450 M-II machine with no
>problem. However, on the motherboards, there were Intel chip sets for the
>I/O.
>
>John

Thanks for the information, John. I believe this is really getting to the
heart of the matter. It's probably not the processor, but rather the MB
chipset. That would explain why some cheap Celeron MB's don't work either.

Thanks,

John W2FS

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

64. [picsig] Re: Pic E R1 swap for 1n914

From: John Hansen <john@hansen.net>
Date: Wed, 28 Jul 1999 17:34:33 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-31907-1999.07.28-16.45.11--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 05:30 PM 7/28/99 -0400, you wrote:
>Hmmm after all this, I want to try it out on my MacIntosh Performa 6400
>w/G3 card running Win 95 and or DOS 6.22 under VPC 2.1.3 ... oughta be
>enlightening to see how that works or doesn't as the case may be.

Oh, this would be interesting. Please post your findings.

John, W2FS

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65. [picsig] Announcing the open design 1k2telemetry board

From: James Jefferson <jjeffers@deskmedia.com>
Date: Thu, 29 Jul 1999 02:03:03 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-31983-1999.07.29-02.09.04--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Since the PIC-E project first began, there has frequently been people wanting the board files so they can experiment on their own. For one reason or another TAPR hasn't released the files (which they have every right to, of course.) Homebrewers and foreign hams are left out in the cold. In some cases there are people who are not interested in making an inexpensive MIC-ENCODER clone. They don't need RJ-45 connectors to make an APRS tracker or to interface to a weather station. In an effort to remedy a few technical problems, as well as create a more configurable, simpler, and open design, I have designed a new a sort of "PIC Encoder."

I introduce to you the 1k2telemetry board.

The design is similar to TAPR's PIC Encoder. A 18 pin Microchip PIC processor and a MX COM 614 modem chip make up the core of the project. Unlike the PIC Encoder, the 1k2telem board allows complete control of the MX614. This allows you to make use of onboard functions such as bit-retimming. Many ideas from wish lists have also been included. An I2C bus is present on the board, along with two sockets that will accept popular EEPROMs or FRAM, a $5 temperature sensor could also be connected to the I2C connector. The 5 volt regulator is a high current 7805 which could be used power a GPS. Female DB9 connectors are used to interface with the an RS-232 device and the radio (using Kantronics's pinout convention).

The board measures 2 x 5" (508 x 1270mm), double sided, with approximately 125 holes. I have paid special attention to make sure that it can be constructed without plated through holes. This means that you should be able to fabricate the board at home, a real "plus" for homebrewers.

The board files are free for any use except commercial. Commercial use can be negotiated with me. The schematic files are free for everyone. This licensing is really simple!

I did not include onboard PIC programmer. Many people that are interested in experimenting already have a PIC programmer. Any 18 pin PIC can be used with the board - a simple onboard programmer would not be able to program them all. Weather stations and APRS trackers don't need the cost, weight, or complexity of an onboard programmer. John Hansen, W2FS, has designed a very versatile little PIC16F84 programmer that can be built for less then a dollar - I can't beat that!

Based partly on your input I may decide to sell bare boards, partial kits, full kits, and pre-assembled units. Tell me what you think.

Possible prices:
Bare Board: $8
Partial Kit: $20   (board, MX614, PIC16F84)
Full Kit: $28
Assembled: $65   (assembled and tested with choice of pre-installed code)

At the moment I am not prepared to provide support beyond what help I am currently providing on TAPR's picsig list or via e-mail. I am a high school student - I just don't have the time or finances to provide phone support. The board may not be for newbies! Initially I don't even intend to provide a manual!

I will place the PCB files and schematics online sometime tomorrow. If I receive no feedback, then that is all I will do -- Otherwise you are telling me what you want!

-James Jefferson KB0THN
jjeffers@deskmedia.com

P.S. I am not trying to compete with TAPR in any way. I believe both TAPR

and I are both supporting a common goal - the resurrection of packet radio.

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

66. [picsig] Simplified PIC-E

From: "Byon Garrabrant" <byon@mail.com>
Date: Thu, 29 Jul 1999 01:11:03 -0700
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-31985-1999.07.29-03.19.49--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi All,

I built a new PIC-E this past weekend. The goal was a smaller PIC-E, without the mic-in, personality header, and programmer. I was gonna build it from scratch, but stumbled across the PIC-E prototype I built and showed at the DCC, and determined that I could change I/O and re-wire some pins to make it work. I like how it came out. It's smaller than my VX-1! I still need to buy some small PCB mount LEDs for status, but I did leave space for them. Serial feeds in from the back, there is a mode switch on the front, and power and radio RJ-11. The RJ-11 is the same standard I use for PicCon, and one cool thing about that is I have an RJ-11 to RJ-45 cable to go between my Kenwood mobile and this PIC-E / PicCon which provides audio in and out and power. So surf over to www.byonics.com/pic-e for a view of my new smaller PIC-E. It's not even surface mount. I plan to use it as my primary tracker.

If you don't know about PicCon, see: www.byonics.com/piccon

Byon
_____
Byon Garrabrant N6BG byon@mail.com

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

67. [picsig] Re: Announcing the open design 1k2telemetry board

From: "Steven R. Bible" <srbible@gate.net>
Date: Thu, 29 Jul 1999 10:14:58 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-32008-1999.07.29-09.24.47--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

----- Original Message -----
From: James Jefferson <jjeffers@deskmedia.com>
To: TAPR PIC Development Special Interest Group <picsig@lists.tapr.org>
Sent: Thursday, July 29, 1999 3:03 AM
Subject: [picsig] Announcing the open design 1k2telemetry board

> Since the PIC-E project first began, there has frequently been people
> wanting the board files so they can experiment on their own. For one
reason
> or another TAPR hasn't released the files (which they have every right to,
> of course.) Homebrewers and foreign hams are left out in the cold. In some
> cases there are people who are not interested in making an inexpensive
> MIC-ENCODER clone. They don't need RJ-45 connectors to make an APRS
tracker
> or to interface to a weather station. In an effort to remedy a few
> technical problems, as well as create a more configurable, simpler, and
> open design, I have designed a new a sort of "PIC Encoder."

James, I don't understand that since we didn't post the board files that we are intentially leaving someone in the cold. Why is it that when TAPR does not [fill in the blank] it is [fill in the blank]. I am growing weiry of this talk because a similar thing is happening on the TACGPS list because a certain source code was not released TAPR is being blamed for not supporting [fill in the blank].

We happen to listen to the users to make changes to future projects. There has been some useful suggestions. Yet, there's been nothing substantial to warrent a major change in the PIC-E design. We have discussed this among

the PIC-E designers as we are looking at the next generation PIC-E (or whatever it may be called).

When you do not receive feedback, comments, or suggestions, then you can only guess. And that's dangerous. Anytime you say "I think the user wants..." you are only speculating. That's why the devil created Marketing departments (just review past Dilbert comics). TAPR does not have a Marketing department. We are all something else during the day time and at night we're mad, raving design engineers. We design what we would like to have sprinkled with what feedback we are given.

Take for example the PIC-E. The whole purpose of the 50 "eval" kits was to receive feedback on the design. The only major change (if you want to call it that) was changing out the 78L05 for a 7805 for the purpose of powering an external GPS receiver. All other changes were minor and allowed the PIC-E to work more correctly with a diverse group of tranceivers and GPS receivers.

The PIC-E started out life as a whole different project and then molded into the present day project. No one on the team invisioned the PIC-E as it is. Yet, we hope it is a little something for everyone. Now, if there was an overwelming desire for the PIC-E to be something else, we would have made it such.

Alas, the feedback I am getting is that many are happy with the PIC-E. Heck, over 150 have been sold. There's another 100 being kitted on my kitchen table right now.

Users have always been free to make their own designs, and they have. I was very pleased during Dayton when several people brought their PIC-E's to the TAPR booth to show off what they did. This is refreshing and the whole reason why I enjoy making kits. And TAPR also started selling the MX614 chip to help hams get their hands on one to build whatever they wanted. Yet you blasted TAPR on this list for being too slow.

> I introduce to you the 1k2telemetry board.

TAPR is in the business of education, research and development. We are not a kit manufacture. We sell kits to enable hams to learn and research on their own because the project does not exist anywhere else. That is why it is called an "enabling technology." Your efforts of designing a telemetry board is right on the mark of TAPR's efforts to get the technology out and get people experimenting. Would you have designed the telemetry board if the PIC-E did not exist?

[snip]

> P.S. I am not trying to compete with TAPR in any way. I believe both TAPR
> and I are both supporting a common goal - the resurrection of packet radio.

I would clarify that TAPR is not trying to resurrect packet radio. It is more proper to state that more applications to fit packet radio in present day technology. The fact that 1200 bps AFSK packet still exists after almost 20 years is not a tribute to admire. We should be doing GMSK or spread spectrum. The later we are working on. The former can be done now. Yet there is an overwelming momentum for the old standard. And perhaps there's a good reason for this. Maybe it's because there's no Marketeers :-).

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

68. [picsig] Re: Announcing the open design 1k2telemetry board

From: Bob Nielsen <nielsen@primenet.com>
Date: Thu, 29 Jul 1999 07:30:21 -0700
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-32012-1999.07.29-09.39.07--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

James,

This sounds like a good idea and should attract those who are interested in packet radio applications for PICs but not necessarily in the PIC-E.

I would be interested in purchasing a bare board.

Where can one find the information on John Hansen's 16F84 programmer?

I am sure TAPR's interest in supporting projects like this extends well
beyond the limited number of kits we are able to offer. I feel that the
/picsig area on tapr.org would be a good place to have these files
available.

73,

Bob Nielsen, W6SWE

On Thu, Jul 29, 1999 at 02:03:03AM -0500, James Jefferson wrote:
>   Since the PIC-E project first began, there has frequently been people
> wanting the board files so they can experiment on their own. For one reason
> or another TAPR hasn't released the files (which they have every right to,
> of course.) Homebrewers and foreign hams are left out in the cold. In some
> cases there are people who are not interested in making an inexpensive
> MIC-ENCODER clone. They don't need RJ-45 connectors to make an APRS tracker
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>   I introduce to you the 1k2telemetry board.
>
>   The design is similar to TAPR's PIC Encoder. A 18 pin Microchip PIC
> processor and a MX COM 614 modem chip make up the core of the project.
> Unlike the PIC Encoder, the 1k2telem board allows complete control of the
> MX614. This allows you to make use of onboard functions such as
> bit-retimming. Many ideas from wish lists have also been included. An I2C
> bus is present on the board, along with two sockets that will accept
> popular EEPROMs or FRAM, a $5 temperature sensor could also be connected to
> the I2C connector. The 5 volt regulator is a high current 7805 which could
> be used power a GPS. Female DB9 connectors are used to interface with the
> an RS-232 device and the radio (using Kantronics's pinout convention).
>
>   The board measures 2 x 5" (508 x 1270mm), double sided, with approximately
> 125 holes. I have paid special attention to make sure that it can be
> constructed without plated through holes. This means that you should be
> able to fabricate the board at home, a real "plus" for homebrewers.
>
>   The board files are free for any use except commercial. Commercial use can
> be negotiated with me. The schematic files are free for everyone. This
> licensing is really simple!
>
>   I did not include onboard PIC programmer. Many people that are interested
> in experimenting already have a PIC programmer. Any 18 pin PIC can be used
> with the board - a simple onboard programmer would not be able to program
> them all. Weather stations and APRS trackers don't need the cost, weight,
> or complexity of an onboard programmer. John Hansen, W2FS, has designed a
> very versatile little PIC16F84 programmer that can be built for less then a
> dollar - I can't beat that!
>
>   Based partly on your input I may decide to sell bare boards, partial kits,
> full kits, and pre-assembled units. Tell me what you think.
>
> Possible prices:
> Bare Board: $8
> Partial Kit: $20   (board, MX614, PIC16F84)
> Full Kit: $28
> Assembled: $65   (assembled and tested with choice of pre-installed code)
>
>   At the moment I am not prepared to provide support beyond what help I am
> currently providing on TAPR's picsig list or via e-mail. I am a high school
> student - I just don't have the time or finances to provide phone support.
> The board may not be for newbies! Initially I don't even intend to provide
> a manual!
>
>   I will place the PCB files and schematics online sometime tomorrow. If I
> receive no feedback, then that is all I will do -- Otherwise you are
> telling me what you want!
>
> -James Jefferson KB0THN
> jjeffers@deskmedia.com
>
> P.S. I am not trying to compete with TAPR in any way. I believe both TAPR
> and I are both supporting a common goal - the resurrection of packet radio.

>
>
> ---
> You are currently subscribed to picsig as: nielsen@primenet.com
> To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org
>

--
Bob Nielsen   Internet: nielsen@primenet.com
Tucson, AZ   AMPRnet: w6swe@w6swe.ampr.org
DM42nh   http://www.primenet.com/~nielsen

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69. [picsig] FW: Your confirmation is needed (ok 10087)

From: "Rockfield, Terry A" <Terry_Rockfield@dscc.dla.mil>
Date: Thu, 29 Jul 1999 10:36:16 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-32014-1999.07.29-09.44.56--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> -----Original Message-----
> From: Rockfield, Terry A
> Sent: Thursday, July 29, 1999 10:28 AM
> To: 'Lyris'
> Subject: RE: Your confirmation is needed (ok 10087)
>
>
> I ordered this GPS unit (actually part of an surplused auto mapping
> system.)from the web site shown on the attached e-mail from the
> gps.qsl.net reflector.
>
> Do you think I can use the PIC to decode the proprietary output data the
> input to the kantronics 2 M crystal controlled xmitter
> to achieve a trackable 2 meter GPS packet setup.?
>
>   Terry   http://www.qsl.net/kc8kof/
>   <<[GPS] $20 GPS receiver>>
>
> -----Original Message-----
> From: Lyris [SMTP:lyris-confirm@lists.tapr.org]
> Sent: Thursday, July 29, 1999 10:30 AM
> To: Terry_rockfield@dscc.dla.mil
> Subject: Your confirmation is needed (ok 10087)
>
> Your email address 'Terry_rockfield@dscc.dla.mil' has been entered for a
> subscription
> to the picsig mailing list. However, your new subscription requires
> a confirmation that you received this email message and want to join this
> mailing list.
>
> If you do not want to join, do nothing. You will be automatically
> removed.
>
> To confirm that you do want to join, reply to this message so that
> the words "ok 10087" appear somewhere on the subject line.
>
> Make sure that your message is addressed to lyris-confirm@lists.tapr.org
>
> You will receive notification that your confirmation has been approved.
>
> To unsubscribe immediately, forward this message to
> unsubscribe-confirm@lists.tapr.org

70. [picsig] Re: Simplified PIC-E

From: "Tom Schaefer" <toms@inconnect.com>
Date: Thu, 29 Jul 1999 09:34:28 -0600
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-32024-1999.07.29-10.43.10--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I'm glad to see this exists. I've talked on this SIG in the past about
having a PIC-E that was smaller/cheaper to make in bulk, so I think this
would be a nice design. I was always curious which parts of the PIC-E could
be left out for a production tracker, and this seems to answer the question.

One question for those that know.

We supplied APRS trackers at a local marathon this past weekend. I used
KPC-3 TNCs and set them up at the beginning. One interesting thing was that
I set the MYCALL to SAG1, LEAD, SAG2, etc, but as each SAG wagon (support
van) pulled up, we installed the TNC with the SAG1 call in what we were told
was SAG1. Well, as they pulled out, the driver's said "Well, that one is
SAG2 now". Obviously, my APRS display was now wrong. I set the remotes on
each TNC but could not connect. Now the PIC part of our story...

I am interested in putting together 10 PIC-E type trackers, but with a
twist. It occurred to me that it would be good to have a single digit rotary
encoder (0-9), on each PIC-E. In the software, I would have a lookup table 1
= SAG1, 2 = SAG2, 3 = SAG3, 0 = LEAD, 9 = TAIL. Then as the SAG wagons left,
I would have NET control call SAG1 and say "set your tracker to number 1",
"LEAD set your tracker to 0", etc. This way, no matter who gets what
tracker, I could control what call sign they send out so the display is
correct. Of course, the BText would be used to send the callsign as long as
I had access to another timer to send the ID every 9 minutes. Is this a good
way to do it? Should there be enough memory on the PIC to do this?

Thanks,

Tom NY4I

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71. [picsig] Re: Announcing the open design 1k2telemetry board

From: "James Jefferson KB0THN" <jjeffers@deskmedia.com>
Date: Thu, 29 Jul 1999 12:3:55
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-32044-1999.07.29-12.12.47--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> Where can one find the information on John Hansen's 16F84 programmer?
>
> I am sure TAPR's interest in supporting projects like this extends well
> beyond the limited number of kits we are able to offer. I feel that the
> /picsig area on tapr.org would be a good place to have these files
> available.

Thanks for the comments, Bob.

John Hansen wrote an article on PIC programming last fall. The article was
published in QST and a PCB for the programmer was made by FAR circuits. The
board is about as wide as a straight DB9 connector. It has a DIP 18 for the
PIC (which I would recomend making a machined socket, and adding a jumper
to be able to program serial EEPROMs). I don't remember how much the board
cost, but it has about $0.80 of parts on it... =) I used Johns programmer
everyday until I got a MeLabs programmer to do PIC16C73's.

I'm intending to put the files on my website this afternoon, but it would
be great to have the /picsig as a mirror of a few files.

Thanks for the encouragement!

-James Jefferson KB0THN

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72. [picsig] Re: Simplified PIC-E

From: "Steven R. Bible" <srbible@gate.net>
Date: Thu, 29 Jul 1999 15:37:14 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-32057-1999.07.29-14.47.21--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

----- Original Message -----
From: Tom Schaefer <toms@inconnect.com>
To: TAPR PIC Development Special Interest Group <picsig@lists.tapr.org>
Sent: Thursday, July 29, 1999 11:34 AM
Subject: [picsig] Re: Simplified PIC-E

> I'm glad to see this exists. I've talked on this SIG in the past about
> having a PIC-E that was smaller/cheaper to make in bulk, so I think this
> would be a nice design. I was always curious which parts of the PIC-E
could
> be left out for a production tracker, and this seems to answer the
question.

Refer to Byon's previous post. He's strip away the microphone portion and
put it all in a nice case.

> One question for those that know.
>
> We supplied APRS trackers at a local marathon this past weekend. I used
> KPC-3 TNCs and set them up at the beginning. One interesting thing was
that
> I set the MYCALL to SAG1, LEAD, SAG2, etc, but as each SAG wagon (support
> van) pulled up, we installed the TNC with the SAG1 call in what we were
told
> was SAG1. Well, as they pulled out, the driver's said "Well, that one is
> SAG2 now". Obviously, my APRS display was now wrong. I set the remotes on
> each TNC but could not connect. Now the PIC part of our story...
>
>
> I am interested in putting together 10 PIC-E type trackers, but with a
> twist. It occurred to me that it would be good to have a single digit
rotary
> encoder (0-9), on each PIC-E. In the software, I would have a lookup table
1
> = SAG1, 2 = SAG2, 3 = SAG3, 0 = LEAD, 9 = TAIL. Then as the SAG wagons
left,
> I would have NET control call SAG1 and say "set your tracker to number 1",
> "LEAD set your tracker to 0", etc. This way, no matter who gets what
> tracker, I could control what call sign they send out so the display is
> correct. Of course, the BText would be used to send the callsign as long
as
> I had access to another timer to send the ID every 9 minutes. Is this a
good
> way to do it? Should there be enough memory on the PIC to do this?

One of the ideas for the PIC-E was to create a "programming doggle" that in
cases of emergency communications, you report to the communications desk and
are issued a PIC-E. You already have your doggle that's programmed as you
(callsign, tactical callsign, etc.). You plug it in and away you go. If
for some reason your unit fails, you return it, gain a replacement, plug
your doggle in and you are the same person.

To implement the doggle or your idea of a dip or rotory switch, you need
more pins on the PIC. On the PIC-E you'll have to find which pins you want
to steal from some other application to do the switch. That's why we
provided the option 1 (mode) switch, you can make one of two configurations.
These can be two different callsign for example, or two different messages
(in service, out of service). Depending on the number of selections
determines the number of pins. In your example you say 9. That will take 4
pins. 4-bits totals 16 selections, so there's little waste here. If you
move down to three pins, that's 8 selections.

Some ideas you can try.

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73. [picsig] Re: Simplified PIC-E

From: "James Jefferson" <jjeffers@sds.i-p.com>
Date: Fri, 30 Jul 1999 04:41:44 +0800
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Cc: picsig@lists.tapr.org
Message-ID: <LYR6890-32065-1999.07.29-15.50.21--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Tom, your inexpensive tracker idea sounds great! The personal data idea is a neat one. You could program
 $0.10 EEPROM's with the personal data, and give everyone a couple. The rotary encoder idea could be
implemented using a PISO (parallel in, serial out) shift register, using only 3 IO lines.

The whole idea sounds like a great application for a homebrew board like Byon's or my new 1k2telemetry board. In fact the 1k2telem board has 3 input lines available!

Have fun!

-James Jefferson KB0THN

jjeffers@deskmedia.com

_____
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74. [picsig] Re: Oh Where, oh where has my ICD gone?

From: Jeff King <jeff@aerodata.net>
Date: Thu, 29 Jul 1999 17:09:35 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-32069-1999.07.29-16.13.32--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

John Hansen wrote:

> When I attended the Microchip seminar on June 8, I was told the ICD's were
> to ship on June 11. Since it's now June 23, I thought I would give them a
> call and ask whether mine was lost. They now say that they will ship on
> June 28.

Well, mine shipped on July 15th, and I just got it on Monday.

Anyone doing anything with it yet?

-Jeff

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75. [picsig] Re: Announcing the open design 1k2telemetry board

From: Jeff King <jeff@aerodata.net>
Date: Thu, 29 Jul 1999 18:51:45 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-32076-1999.07.29-17.55.43--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Steve:

The PIC-E is one of the best projects TAPR
has ever done. So you (and the other's involved) should be quite flattered
that it has "lite the flame" under some other ham to get involved in making
an improved design.

None-the-less, I take a small exception to a few things you said. Please
take it as more setting the record straight and not as any type of criticism.
I'll
also address some more global issues (not PIC-E specific) near the end.

"Steven R. Bible" wrote:

> ----- Original Message -----
> From: James Jefferson <jjeffers@deskmedia.com>
>

> James, I don't understand that since we didn't post the board files that we
> are intentially leaving someone in the cold.

I don't know the details here, but I recall at least 2 to 3 people on the list asking
for Gerber/artwork files. I think a Mexican or South American fellow and also
a Jason and KA8VIT. I think the americans could spring for the dough but not
sure about the overseas folks.

> I am growing weiry of
> this talk because a similar thing is happening on the TACGPS list because a
> certain source code was not released TAPR is being blamed for not supporting
> [fill in the blank].

I'm sorry, I don't know what "[fill in the blank]" means. My guess is you are comparing
apples to oranges, as I think the TAPR DGPS (my guess for "fill in the blank") has
some real commercial potential where as the PIC-E is strictly a learning tool.

> We happen to listen to the users to make changes to future projects. There
> has been some useful suggestions. Yet, there's been nothing substantial to
> warrent a major change in the PIC-E design.

You discussed this in message you sent out on 3/3/99 in which only
minor changes (and not major) were going to be made. I for one understand this,
as most of the changes were either bug fixes or construction revisions. I also
understand your position... having to support a myriad of builders with varying levels
of ability. Hence, only the most urgent changes made to the REV-2 board.

However, looking at Jame's board and schematic, it incorporates many of the
changes that were suggested on the list previously (by myself and others) that
were not incorporated in the latest rev. Jame's changes include I2C support,
RS-232 data in on RB0 (int. capable), data retiming (hardware) support
for the MX-614 and a larger hold-up cap for automotive applications.
Apparently he felt he needed these things. Hence, he saw a need and filled it.

> reason why I enjoy making kits. And TAPR also started selling the MX614
> chip to help hams get their hands on one to build whatever they wanted. Yet
> you blasted TAPR on this list for being too slow.

I looked at what James actually said (in response to a query on the list on
where to get MX614's):

: "Ronald, TAPR takes a while to get them out. Try Component Distributors, Inc:"

While I'm not saying this is a positive comment towards TAPR, I hardly think it qualifies
to be characterized as a "blast" towards TAPR. If anything, it is one person's opinion.

> TAPR is in the business of education, research and development.

Since the SS snafu years ago, I've long questioned the sincerity of that
statement, at least with regards to the open membership at large.
Understandably, TAPR is made up of small core of people, people who
don't get paid, so I'm more then willing to overlook the warts and
cliques with regards to the big picture. IMHO, TAPR would be
well served by opening up for greater member participation.... which is
something I have been saying (and tryin with very limited sucess) for years
now.

>We are not a kit manufacture.

Then what is the implication of not releasing the artwork for the PIC-E? You
either are or you are not. It is my understanding the kits are a substantial
amount of income for TAPR, hence I never questioned (to any degree) TAPR
not releasing the PCB artwork. In fact, I don't ever recall a project in which the
artwork was released. Possibly the "author" of the artwork, unlike the authors
of the individual PIC-E routines is unwilling to release it? I don't know.

Anyways, I think Jame's alternate design and artwork release on this list is a
good thing, and does not detract to any degree from TAPR's mission or
contribution.

73

Jeff
wb8wka

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76. [picsig] 1k2telem file locations

From: James Jefferson <jjeffers@deskmedia.com>
Date: Thu, 29 Jul 1999 18:40:13 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-32085-1999.07.29-18.46.40--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hello everyone,

I've been delaying releasing the files because I've been having problems
exporting the schematic from Ivex Winboard. I suspect I will have those
problems cleared up within an hour or two (downloading a new Winboard right
now) - but I didn't want to delay any longer to get the files out.

I'm putting all of the files related to the project at:
http://www.jarviscomputer.com/1k2telem/

Please note that the board may contain a few bugs. These will likely be
only mechanical problems (wrong size pads, etc.). I will release new board
files once I've received my prototype board and found its problems. The
schematic, however, has been fully tested and it has passed ERC (Electrical
Rules Check).

If you want to make or your own, or can't wait until I have my production
run done then I will suggest using -
PCB Milling   http://www.pcbmilling.com/   or
Alberta Printed Circuits Ltd.   http://www.apcircuits.com/
- to make a few boards.

In the next few days I will look more seriously at various kit options for
it. I also intend to describe part sources and assembly notes. The website
it just a file repository at the moment, within a few days it will start
looking (and containing) better.

72.98's de,

-James Jefferson KB0THN
jjeffers@deskmedia.com

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77. [picsig] Re: Oh Where, oh where has my ICD gone?

From: Steve Dimse K4HG <k4hg@tapr.org>
Date: Fri, 30 Jul 1999 12:14:36 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-32207-1999.07.30-11.23.30--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On 7/29/99 5:09 PM Jeff King (jeff@aerodata.net) wrote:

>
>Anyone doing anything with it yet?
>
I got mine a couple weeks ago. This thing is just too cool. I have been
using it with the protobard I developed for porting the hamhud code over
to ccs c. I haven't had time to do much on that project, but it shortens
the cycle time incredibly over the UV eraseable parts. It is even easier
than the the Pic-E board, never have to leave the computer to pull the
programming jumper, and PIC execution is even started by the green light
icon in the IDE. Neat!

Steve K4HG

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78. [picsig] Re: Oh Where, oh where has my ICD gone?

From: Jeff King <jeff@aerodata.net>
Date: Fri, 30 Jul 1999 18:14:23 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-32250-1999.07.30-17.19.56--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Steve Dimse K4HG wrote:

> I have been
> using it with the protobard I developed for porting the hamhud code over
> to ccs c.

Yeap, that's in Hi-tech C, which from what I understand has less library functions then CCS 'C' although I have not dug into it much. Since you already are, I'd like to hear what you think of it compared to CCS.

Steve Hageman coded up some LCD routines that appear more compact then the CCS routines, or at least they use one less I/O bit then the CCS ones. Check that out at:

www.sonic.net/~shageman/2_meter.html

They are fully CCS compatible (he is a big poster on the CCS info list).

On a side note, has anyone gotten a 16F876 yet? the 877's are in production, but I've still been unable to get the 876, and in fact is why I ended up buying the ICD. (To get access to a 876)

-Jeff

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79. [picsig] Re: Oh Where, oh where has my ICD gone?

From: Steve Dimse K4HG <k4hg@tapr.org>
Date: Fri, 30 Jul 1999 18:27:31 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-32253-1999.07.30-17.36.44--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On 7/30/99 6:14 PM Jeff King (jeff@aerodata.net) wrote:

>> I have been
>> using it with the protobard I developed for porting the hamhud code over
>> to ccs c.
>
>Yeap, that's in Hi-tech C, which from what I understand has less library
>functions then CCS 'C' although I have not dug into it much. Since you
>already are, I'd like to hear what you think of it compared to CCS.
>
Well, like I said I haven't dug into the project. I actually have two sub-projects there. I am using a really cool fluorescent serial display I got at Dayton, which is the larger of the two problems. I don't have Hi-Tech C, due to the price, so I can't really offer a comparison.

>Steve Hageman coded up some LCD routines that appear more
>compact then the CCS routines, or at least they use one less I/O
>bit then the CCS ones. Check that out at:
>
>www.sonic.net/~shageman/2_meter.html
>
>They are fully CCS compatible (he is a big poster on the CCS info
>list).
>
Sounds good, too bad he doesn't have any for my display :-(

If anyone is building a HamHud and planning on doing the porting to CCS, I'd love to hear how it goes...realistically I won't get to do much on this until after DCC...

Steve K4HG

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80. [picsig] Re: Oh Where, oh where has my ICD gone?

From: Jeff King <jeff@aerodata.net>
Date: Fri, 30 Jul 1999 20:01:25 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-32267-1999.07.30-19.06.39--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Steve Dimse K4HG wrote:

>
> >
> Well, like I said I haven't dug into the project. I actually have two
> sub-projects there. I am using a really cool fluorescent serial display I
> got at Dayton, which is the larger of the two problems.

You mean a blue green display, commonly called a VFD display? If
its made by Noritake (sp?), it should be Hitachi compatible meaning
it should work as is with the CCS lcd.c routine. BTW, DigiKey now
sells Noritake.

Oh, I just remember what you might have, its a cash register display,
isn't it? I bought a bunch of LCD displays off that guy, $5 a piece. I think
I came back by 2 or 3 times to look at that VFD display, but wimped
out. It basically had a 9 pin DB-9 connector and you talked with it
via RS-232

> I don't have
> Hi-Tech C, due to the price, so I can't really offer a comparison.

Yes, me too.... the price drove me away. But if you start porting, you
should still be able to get a rough idea as in theory you'll be looking
at compilable Hi-Tech 'C' code as a base. All the Hi-Tech users
say it is better then CCS, but of course it seems none of them actually
has used 'CCS' to any degree. One of the "Andy's" on PicList is
real down on CCS, so I'm thinking this may have rub off on them.

>
> >www.sonic.net/~shageman/2_meter.html
> >
> >They are fully CCS compatible (he is a big poster on the CCS info
> >list).
> >
> Sounds good, too bad he doesn't have any for my display :-(

Whats your make/part number? Somewhere I have some 20x4 line
code.... someone off the CCS board sent it to me but all it was was
a mod of the existing 16x2 code.

Good luck on the project

-Jeff

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

81. [picsig] CCS 'C' newsserver started

From: Jeff King <jeff@aerodata.net>
Date: Fri, 30 Jul 1999 20:13:04 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-32268-1999.07.30-19.18.16--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Craig Lindstrom (not on this list) has set up a newserver dedicated
to the CCS (PIC) 'C' compiler.

Note that is a 'general purpose' list and would not deal with the more
radio related issues PICSIG does.

Its at:

news.esage.com

-Jeff

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82. [picsig] Re: Oh Where, oh where has my ICD gone?

From: Steve Dimse K4HG <k4hg@tapr.org>
Date: Fri, 30 Jul 1999 20:15:49 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-32269-1999.07.30-19.25.19--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On 7/30/99 8:01 PM Jeff King (jeff@aerodata.net) wrote:

>>
>> >
>> Well, like I said I haven't dug into the project. I actually have two
>> sub-projects there. I am using a really cool fluorescent serial display I
>> got at Dayton, which is the larger of the two problems.
>
>You mean a blue green display, commonly called a VFD display? If
>its made by Noritake (sp?), it should be Hitachi compatible meaning
>it should work as is with the CCS lcd.c routine. BTW, DigiKey now
>sells Noritake.
>
I don't have one up here in Miami. It is a synchronous serial display,
uses five wires, gnd, +5, data, clock, and reset. I didn't look closely
at the lcd.c routines, do they support this interface? It also doesn't
matter, as I already have written code that controls the cursor, displays
text, changes intensity, and so on. The issue is the hamhud code, which
does not use library code to control the display, it is all embedded
within the program. It looks like it will be quite a bit of effort to
sort out all the different places the LCD display is accessed and update
it for serial display.

>Oh, I just remember what you might have, its a cash register display,
>isn't it? I bought a bunch of LCD displays off that guy, $5 a piece. I think
>I came back by 2 or 3 times to look at that VFD display, but wimped
>out. It basically had a 9 pin DB-9 connector and you talked with it
>via RS-232
>
No, it is a board with a 5 pin 0.100 header on it for interface. They
were being sold by Nebraska Surplus close to the APRS booth, I think it
was $25 each or so. What I like about it is it is easily readable in full
sunlight, nice for something that sits on the dash!
>
>> I don't have
>> Hi-Tech C, due to the price, so I can't really offer a comparison.
>
>Yes, me too.... the price drove me away. But if you start porting, you
>should still be able to get a rough idea as in theory you'll be looking
>at compilable Hi-Tech 'C' code as a base. All the Hi-Tech users
>say it is better then CCS, but of course it seems none of them actually
>has used 'CCS' to any degree. One of the "Andy's" on PicList is
>real down on CCS, so I'm thinking this may have rub off on them.
>
Well, if I paid the money Hi-Tech charges, I'd be trying very hard to
convince myself that it was worth it. For me, CCS does what I need, so I
just don't see any need to fork out that kind of money...

>>
>> >www.sonic.net/~shageman/2_meter.html
>> >
>> >They are fully CCS compatible (he is a big poster on the CCS info
>> >list).
>> >
>> Sounds good, too bad he doesn't have any for my display :-(
>
>Whats your make/part number? Somewhere I have some 20x4 line
>code.... someone off the CCS board sent it to me but all it was was
>a mod of the existing 16x2 code.
>

Thanks, but like I said I have that part done, it was easy. The tough
part will be digging out all the references in the original code...

I'll keep the list informed if and when I make any headway...

Steve K4HG

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83. [picsig] Re: Oh Where, oh where has my ICD gone?

From: Jeff King <jeff@aerodata.net>
Date: Fri, 30 Jul 1999 20:45:46 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-32273-1999.07.30-19.51.15--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Steve Dimse K4HG wrote:

>
> >
> Well, if I paid the money Hi-Tech charges, I'd be trying very hard to
> convince myself that it was worth it.

I believe you have a point...   ;-)

> >Whats your make/part number? Somewhere I have some 20x4 line
> >code.... someone off the CCS board sent it to me but all it was was
> >a mod of the existing 16x2 code.
> >
> Thanks, but like I said I have that part done, it was easy. The tough
> part will be digging out all the references in the original code...

A suggestion, make your calls to your display similar to the calls to the
CCS LCD.C library so your could can have some #IFDEF's to support
the standard LCD displays also.

To answer your (unquouted) question,
no, the CCS LCD.C does not support synchronous (SPI) displays.
It is set up for the Hitachi standard in 'nibble' mode. Right now
it needs 7 wires, but Steve Hageman apparently got it down to
6 wires.

-Jeff

>
>
> I'll keep the list informed if and when I make any headway...
>
> Steve K4HG
>
> ---
> You are currently subscribed to picsig as: jeff@aerodata.net
> To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

---
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84. [picsig] Re: CCS 'C' newsserver started

From: "Jim Paul" <jamesp@intertex.net>
Date: Fri, 30 Jul 1999 21:15:03 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-32276-1999.07.30-21.21.49--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Jeff,

I called up this website, but see no CCS 'C' list there. Are you sure this
is here it's at?
If so, how do I access it?

Regards,

Jim
-----Original Message-----
From: Jeff King <jeff@aerodata.net>
To: TAPR PIC Development Special Interest Group <picsig@lists.tapr.org>
Date: Friday, July 30, 1999 7:10 PM
Subject: [picsig] CCS 'C' newsserver started

>Craig Lindstrom (not on this list) has set up a newserver dedicated
>to the CCS (PIC) 'C' compiler.
>
>Note that is a 'general purpose' list and would not deal with the more
>radio related issues PICSIG does.
>
>Its at:
>
>news.esage.com
>
>
>
>-Jeff
>
>
>
>---
>You are currently subscribed to picsig as: jamesp@intertex.net
>To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org
>

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

85. [picsig] Re: CCS 'C' newsserver started

From: Jeff King <jeff@aerodata.net>
Date: Fri, 30 Jul 1999 22:36:05 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-32279-1999.07.30-21.41.42--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

It is a USENET news server, NOT a web site.

What news server software are you using? You'd drop the address
" news.esage.com " in as your news server site.

I think with the netscrape browser you can type:

news://news.esage.com

and it will open your news browser for you

-Jeff

Jim Paul wrote:

> Jeff,
>
> I called up this website, but see no CCS 'C' list there. Are you sure this
> is here it's at?
> If so, how do I access it?
>
> Regards,
>
> Jim
> -----Original Message-----
> From: Jeff King <jeff@aerodata.net>
> To: TAPR PIC Development Special Interest Group <picsig@lists.tapr.org>
> Date: Friday, July 30, 1999 7:10 PM
> Subject: [picsig] CCS 'C' newsserver started
>
> >Craig Lindstrom (not on this list) has set up a newserver dedicated

> >to the CCS (PIC) 'C' compiler.
> >
> >Note that is a 'general purpose' list and would not deal with the more
> >radio related issues PICSIG does.
> >
> >Its at:
> >
> >news.esage.com
> >
> >
> >
> >-Jeff
> >
> >
> >
> >---
> >You are currently subscribed to picsig as: jamesp@intertex.net
> >To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org
> >
>
> ---
> You are currently subscribed to picsig as: jeff@aerodata.net
> To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

---
You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

86. [picsig] PIC ENCODER POSITION ERROR

From: "Richard Aubin" <aubinri@total.net>
Date: Sat, 31 Jul 1999 10:54:37 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-32331-1999.07.31-09.57.57--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I assembled my PIC Encoder a couple of month ago and I can't get rid
of

  some false positions that are randomly transmitted .
  I tried a proto board , then we made a custom reduced size PCB ,
 changed
   the PIC and updated the code , no success.

  The GPS seems to transmit the correct position to the PIC but my
  monitoring station
  shows about one out of 4 position to be some where 120 degree south in
  latitude .

  I am using the latest GPS-E-2 version from june 24 1999 .
   Here is an extract of the received data received.

  VE2DJE-9>TU3U9P,RELAY,WIDE,WIDE:`eGrl#Xv/
  VE2DJE-9>TU3U9P,RELAY,WIDE,WIDE:`eGrl#Xv/
  VE2DJE-9>TU3U9P,RELAY,WIDE,WIDE:`eGrl#Xv/
  VE2DJE-9>TU3U9P,RELAY,WIDE,WIDE:`eGrl#Xv/
  VE2DJE-9>L@,8,RELAY,WIDE,WIDE:`rl v/
  VE2DJE-9>TU3U9P,RELAY,WIDE,WIDE:`eGrl#Xv/
  VE2DJE-9>TU3U9P,RELAY,WIDE,WIDE:`eGrl#Xv/
  VE2DJE-9>TU3U9P,RELAY,WIDE,WIDE:`eGrl#Xv/
  VE2DJE-9>TU3U9P,RELAY,WIDE,WIDE:`eGrl#Xv/
  VE2DJE-9>TU3U9P,RELAY,WIDE,WIDE:`eGrl#Xv/
  VE2DJE-9>L@,8,RELAY,WIDE,WIDE:`rl v/
  VE2DJE-9>TU3U9P,RELAY,WIDE,WIDE:`eGrl#Xv/Rico Mobile Hi There

  The lines with position encoded starting with L@,8 are 120 degree south

  all the others are correct .

  Anyone out there has a clue ????

  Thanks Richard VE2DJE

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87. [picsig] PIC False position another clue

From: "Richard Aubin" <aubinri@total.net>
Date: Sat, 31 Jul 1999 10:55:21 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-32332-1999.07.31-09.58.19--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Another clue that might be of any interrest ,
 I put my GPS receiver in simulate mode with speed to 0.00 .
 So that (I think) it always puts out the same position to the PIC.
 Guess what , same problem , it keeps sending false position
 once in a while .

 Ron VE2JOR has one of the 50 prototypes board and experience
 the same problem. So it rules out the layout .

 Is there any one with experience with the lenght of cable or the
 quality of the cable from the GPS to the PIC ?? .
 I am using about 8 feet of   cat 5 cable .

 Here are the readout from the STILL GPS mode .

 VE2DJE-9>TU3U7R,RELAY,WIDE,WIDE:`eGrlUXv/
 VE2DJE-9>L@,8,RELAY,WIDE,WIDE:`rl v/
 VE2DJE-9>L@,8,RELAY,WIDE,WIDE:`rl v/
 VE2DJE-9>TU3U6S,RELAY,WIDE,WIDE:`eGrlUXv/Rico Mobile Hi There
 VE2DJE-9>TU3U6X,RELAY,WIDE,WIDE:`eGrl#Xv/
 VE2DJE-9>L@,8,RELAY,WIDE,WIDE:`rl v/
 VE2DJE-9>TU3U6X,RELAY,WIDE,WIDE:`eGrl#Xv/

 If some one wants to simulate my problem for any clue ,
 my exact position is 45,35,676 N and 73,43,860 W.
 But I saw the problem elsewhere also .

 Thanks Richard VE2DJE

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August 1999

Original source file: picsig.9908
Source: http://ftp.tapr.org/tapr_history/SIG_Archives/picsig/mail_archive/picsig.9908

1. [picsig] Re: PIC ENCODER POSITION ERROR

From: John Hansen <hansen@ait.fredonia.edu>
Date: Mon, 22 Feb 1999 22:34:24 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-32657-1999.08.02-15.11.22--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Richard Aubin wrote:
>
>
> I assembled my PIC Encoder a couple of month ago and I can't get rid
> of
>
> some false positions that are randomly transmitted .
> I tried a proto board , then we made a custom reduced size PCB ,
> changed
>   the PIC and updated the code , no success.
>
> The GPS seems to transmit the correct position to the PIC but my
> monitoring station
> shows about one out of 4 position to be some where 120 degree south in
> latitude .
>
> I am using the latest GPS-E-2 version from june 24 1999 .
>   Here is an extract of the received data received.
>
> VE2DJE-9>TU3U9P,RELAY,WIDE,WIDE:`eGrl#Xv/
> VE2DJE-9>TU3U9P,RELAY,WIDE,WIDE:`eGrl#Xv/
> VE2DJE-9>TU3U9P,RELAY,WIDE,WIDE:`eGrl#Xv/
> VE2DJE-9>TU3U9P,RELAY,WIDE,WIDE:`eGrl#Xv/
> VE2DJE-9>L@,8,RELAY,WIDE,WIDE:`rl v/
> VE2DJE-9>TU3U9P,RELAY,WIDE,WIDE:`eGrl#Xv/
> VE2DJE-9>TU3U9P,RELAY,WIDE,WIDE:`eGrl#Xv/
> VE2DJE-9>TU3U9P,RELAY,WIDE,WIDE:`eGrl#Xv/
> VE2DJE-9>TU3U9P,RELAY,WIDE,WIDE:`eGrl#Xv/
> VE2DJE-9>TU3U9P,RELAY,WIDE,WIDE:`eGrl#Xv/
> VE2DJE-9>L@,8,RELAY,WIDE,WIDE:`rl v/
> VE2DJE-9>TU3U9P,RELAY,WIDE,WIDE:`eGrl#Xv/Rico Mobile Hi There
>
> The lines with position encoded starting with L@,8 are 120 degree south
>
> all the others are correct .
>
> Anyone out there has a clue ????

I have seen this occasionally, though very rarely. I notice that it
doesn't seem to be a fuction of the position that is being transmitted.
I strongly suspect that it is the serial data being corrupted by RF
getting into the line between the GPS and the PIC-E. Is your PIC-E in
a shielded box? Do you still have the problem when you use very low
power or when the transmitter is moved a significant distance from the
PIC-E?

John, W2FS

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2. [picsig] Re: PIC ENCODER POSITION ERROR]

From: John Hansen <hansen@ait.fredonia.edu>
Date: Mon, 02 Aug 1999 23:20:02 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-32794-1999.08.03-11.18.32--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

aa
 Richard Aubin wrote:
 >
 >

```
 >   I am using the latest GPS-E-2 version  from  june 24 1999 .
 >    Here is an extract of the received data received.
 >
 >   VE2DJE-9>TU3U9P,RELAY,WIDE,WIDE:`eGrl#Xv/
 >   VE2DJE-9>TU3U9P,RELAY,WIDE,WIDE:`eGrl#Xv/
 >   VE2DJE-9>TU3U9P,RELAY,WIDE,WIDE:`eGrl#Xv/
 >   VE2DJE-9>TU3U9P,RELAY,WIDE,WIDE:`eGrl#Xv/
 >   VE2DJE-9>L@,8,RELAY,WIDE,WIDE:`rl v/
 >   VE2DJE-9>TU3U9P,RELAY,WIDE,WIDE:`eGrl#Xv/
 >   VE2DJE-9>TU3U9P,RELAY,WIDE,WIDE:`eGrl#Xv/
 >   VE2DJE-9>TU3U9P,RELAY,WIDE,WIDE:`eGrl#Xv/
 >   VE2DJE-9>TU3U9P,RELAY,WIDE,WIDE:`eGrl#Xv/
 >   VE2DJE-9>TU3U9P,RELAY,WIDE,WIDE:`eGrl#Xv/
 >   VE2DJE-9>L@,8,RELAY,WIDE,WIDE:`rl v/
 >   VE2DJE-9>TU3U9P,RELAY,WIDE,WIDE:`eGrl#Xv/Rico Mobile Hi There
 >
 >   The lines  with position encoded starting with L@,8 are  120 degree
south
 >
 >   all the others are correct .
 >
 >   Anyone out there has a clue  ????

 I have seen this occasionally, though very rarely.  I notice that it
 doesn't seem to be a fuction of the position that is being transmitted.
 I strongly suspect that it is the serial data being corrupted by RF
 getting into the line between the GPS and the PIC-E.  Is your PIC-E in
 a  shielded box?  Do you still have the problem when you use very low
 power or when the transmitter is moved a significant distance from the
 PIC-E?

 John, W2FS
```

3. [picsig] Re: PIC ENCODER POSITION ERROR

```
From: "JOHANN BOTHA" <bothajp@netactive.co.za>
Date: Wed, 4 Aug 1999 10:42:38 +0200
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-32904-1999.08.04-04.33.20--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain
```

```
>  I  assembled my  PIC Encoder a couple of month ago and I can't get  rid
>of
>
>  some false positions that are randomly transmitted  .
>  I tried  a proto board , then  we made a custom  reduced size PCB ,
> changed
>   the  PIC  and updated the code , no success.
>
>  The  GPS seems  to transmit the correct position to the PIC but my
>  monitoring station
>  shows about one out  of 4 position to be  some where 120 degree south  in
>  latitude .
>
>  I am using the latest GPS-E-2 version  from  june 24 1999 .
>   Here is an extract of the received data received.
>
>  VE2DJE-9>TU3U9P,RELAY,WIDE,WIDE:`eGrl#Xv/
>  VE2DJE-9>TU3U9P,RELAY,WIDE,WIDE:`eGrl#Xv/
>  VE2DJE-9>TU3U9P,RELAY,WIDE,WIDE:`eGrl#Xv/
>  VE2DJE-9>TU3U9P,RELAY,WIDE,WIDE:`eGrl#Xv/
>  VE2DJE-9>L@,8,RELAY,WIDE,WIDE:`rl v/
>  VE2DJE-9>TU3U9P,RELAY,WIDE,WIDE:`eGrl#Xv/
>  VE2DJE-9>TU3U9P,RELAY,WIDE,WIDE:`eGrl#Xv/
>  VE2DJE-9>TU3U9P,RELAY,WIDE,WIDE:`eGrl#Xv/
>  VE2DJE-9>TU3U9P,RELAY,WIDE,WIDE:`eGrl#Xv/
>  VE2DJE-9>TU3U9P,RELAY,WIDE,WIDE:`eGrl#Xv/
>  VE2DJE-9>L@,8,RELAY,WIDE,WIDE:`rl v/
>  VE2DJE-9>TU3U9P,RELAY,WIDE,WIDE:`eGrl#Xv/Rico Mobile Hi There
>
>  The lines  with position encoded starting with L@,8 are  120 degree south
>
>  all the others are correct .
>
>  Anyone out there has a clue  ????
>
>  Thanks  Richard  VE2DJE


>From Johann Botha
```

You might have a timing problem wth serial comms - it looks like you are
getting kreep that kicks in the same errer at a constant interval.

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

4. [picsig] gps35&pice

From: Kestutis Ziaunys <kestzia@takas.lt>
Date: Wed, 04 Aug 1999 20:56:13 +0200
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-32941-1999.08.04-14.04.04--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi,
Does anyone know can i connect Garmin GPS35 with pic-e
thanks!

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

5. [picsig] Re: gps35&pice

From: Bill Vodall <Vodall@bigsky.com>
Date: Wed, 04 Aug 1999 12:19:22 -0700
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-32949-1999.08.04-14.28.23--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 08:56 PM 8/4/99 +0200, Kestutis Ziaunys wrote:
>Hi,
>Does anyone know can i connect Garmin GPS35 with pic-e
>thanks!
>

Works great for me. I've been getting lots of use out of a GPS-35 HSV
track pack with the GPS-E code.

>

While we're at it, has anybody tried using a simple digi
path for the second config in the GPS-E code? RELAY works
but R0MIR is ignored.

Bill, WA7NWP

Bill Vodall   425-869-2320 Fax: 425-881-1008
mailto:bvodall@hyperlynx.com   http://www.hyperlynx.com
Signal Integrity and EMC Analysis Software for High-Speed PCB Design
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6. [picsig] 1k2telem update

From: James Jefferson <jjeffers@deskmedia.com>
Date: Thu, 05 Aug 1999 23:10:01 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-33110-1999.08.05-23.16.12--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hello everyone,

The 1k2telem board is experiencing a major delay. My prototype board
manufactuer's milling machine is dead for a few weeks! I'm going to
investigate other options in order to keep the ball rolling. I was going to
pay pcbmilling.com $65 to get 3 boards done - can anybody recommend
something similarly priced? If not then I will go with apcircuits.com...

I "uglyboarded" up a 1k2telem board today. "Uglyboarding" is the term I
given to use radio shack perf board, wirewrap wire, and resistor leads to

make a board... =) It fits nicely on Radio Shack's perfboard that looks
like a breadboard. Total construction time was a 3.5 hours. I will snap a
picture soon. Beyond the PIC and the MX614 there should be more then $20 of
Radio Shack parts, if that is your only source.

A breadboard version of the 1k2telem has been beaconing the weather from
Peter Anderson's weather station kit (www.phanderson.com) every 30 seconds,
for the past week. (Not on a networking frequency!) Sending two
end-of-packet flags along with using the hardware retimming and taken care
of all decoding problems. Thanks for the hint the flags, John.

Great fun!

-James Jefferson KB0THN
jjeffers@deskmedia.com

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

7. [picsig] Re: 1k2telem update

From: Jeff King <jeff@aerodata.net>
Date: Fri, 06 Aug 1999 00:40:41 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-33115-1999.08.05-23.49.40--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

James:

James Jefferson wrote:

> I'm going to
> investigate other options in order to keep the ball rolling. I was going to
> pay pcbmilling.com $65 to get 3 boards done - can anybody recommend
> something similarly priced? If not then I will go with apcircuits.com...

Well, with AP you'll get plated through holes, and I don't expect the price
will be much different (although AP only works in increments of 2).

I'd say go with AP.... I've been happy with them and have done about
6 jobs so far with them. I found a local company for my quickturn 4 layer
boards (www.boardman.cc) but still send all the 2 layer work to AP.
Also, you get a favorable break on the exchange rate at AP.

BTW, thanks for the I2C ramtrom driver, but I decided to go with the
SPI version of the part as its much faster (2.1mhz vs 400khz). I'll post
the routine as soon as its done.

73

Jeff

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8. [picsig] Re: Ramtron report?

From: "Byon Garrabrant" <byon@mail.com>
Date: Fri, 6 Aug 1999 00:30:12 -0700
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-33134-1999.08.06-02.39.45--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On 19 Jul 99, at 11:25, Hall, Erik (Exchange) wrote:

> > From: byon@mail.com [SMTP:byon@mail.com]
> >
> > On 17 Jul 99, at 3:34, Jeff King wrote:
> >
> > > All:
> > >
> > > I know a couple of people on here had got the Ramtron serial
FRAM's
> > > but did anyone try them? And words on these, good or bad?
> > >
> > > Thanks!
> >

> > I got a hold of a few of both the I2C and the SPI version, with
plans to
> > build a more complete TNC. Although I haven't really made
progress on
> > this project, I did begin on a LCD display project requiring a few
K of
> > RAM, so I used the SPI version. It's working great! It took a
little
> > effort to get the protocol right, but I now have nice stand alone
> > routines to read and write. And, I understand larger version
(possiblily
> > up to 1Meg) are in the coming future.
> >
>
> Would you, could you post these routines somewhere.....Sounds like a
> project I'd like to start getting into....
>

OK, I just uploaded them to TAPR. Steve, please move them to
software. Below is the description.

73,
Byon
==========
Enclosed is my PIC asm source to access a
Ramtron FM25160 FRAM SPI serial memory.

Data In and Data Out Lines have been tied together
to save pins, but can be separated.

Wiring is as declared in the source, which can be changed:
  #define RAM_CHIP_SELECT   PORTA, 0
  #define RAM_DATA_IN   PORTA, 1
  #define RAM_DATA_OUT   PORTA, 1
  #define RAM_CLOCK   PORTA, 2

The functions are as follows:
RAMInit   - must be called once to initialize system
RAMStop   - complete a read or write operation
RAMWriteStart - start a sequenced write at RAMAddress
RAMWrite   - send a sequenced byte (w) to the chip
RAMWriteByte - Write a single byte (w) to RAMAddress
RAMReadStart - start a sequenced read at RAMAddress
RAMRead   - receive a sequenced byte from the chip into w
RAMReadByte   - Read a single byte from RAMAddress in w

To write a series of data:
  Setup RAMAddress
  call RAMWriteStart
  movlw <data>
  call RAMWrite   - repeat last 2 for each byte
  call RAMStop

To read a single byte:
  Setup RAMAddress
  call RAMReadByte

To Setup RAMAddress, move the low 8 bits to RAMAddressLow
and the high 3 bits to RAMAddressHigh<2..0> (the bottom 3 bits)

Contributed by Byon Garrabrant, N6BG, byon@mail.com   Aug 5,
1999

****
* This software is available only for non-commercial amateur radio
*
* or educational applications.   ALL other uses are prohibited. *
* This software may be modified only if the resulting code be *
* made available publicly and the original author given credit. *
* Contact the author or TAPR for information on commercial
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*
****

_____
 Byon Garrabrant   N6BG   byon@mail.com

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9. [picsig] help

From: Kestutis Ziaunys <kestzia@takas.lt>
Date: Fri, 06 Aug 1999 22:30:17 +0200
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-33165-1999.08.06-15.38.17--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi,
I connected gps35 with pic-e and station for transmitting gps data
and MFJ with station for receiving
What program can I use for decoding my position on the scanned map?
Thanks,Kestas

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10. [picsig] PeekPack Packet Monitor

From: "Byon Garrabrant" <byon@mail.com>
Date: Sat, 7 Aug 1999 15:47:22 -0700
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-33264-1999.08.07-17.56.57--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Another new toy from my projecting desk...

PeekPack is a packet radio monitoring tool designed to show packet traffic
on an LCD display without the need for a TNC. It consists of a PIC 16F84
microcontroller, a modem chip, and a 16x2 LCD display. A schematic and
firmware is available for download.

Pictures and details can be found at http://www.byonics.com/peekpack

Byon

_____ _____ _____
 Byon Garrabrant   N6BG   byon@mail.com

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11. [picsig] Re: Ramtron report?

From: "Steven R. Bible" <srbible@gate.net>
Date: Sat, 07 Aug 1999 19:36:02 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-33271-1999.08.07-18.44.11--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 12:30 AM 8/6/99 -0700, you wrote:
>
>OK, I just uploaded them to TAPR. Steve, please move them to
>software. Below is the description.

Done. Look for

 ram.rxt
 ram.zip

in the picsig/software/ directory.

- Steve, N7HPR
  n7hpr@tapr.org
  n7hpr@amsat.org

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12. [picsig] MFILTER setting

From: "Mike Berg" <mikeberg@midstate.tds.net>
Date: Sat, 7 Aug 1999 19:03:26 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-33272-1999.08.07-19.12.30--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I had a weird problem arise this week when I switched my APRS
station tnc from the MFJ 1270 to an AEA PK96. The next time
I tracked my PIC-E, my icon was an airplane and my speed reported
at over 600 mph! After a bunch of head scratching, I found the problem.
The MFILTER setting was the default $80 and was removing ascii charactors
used in the compressed position report.

Setting it to $00 solved the problem.

Maybe this can help someone else.
73 Mike N0QBH

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13. [picsig] False position problem looks like a software bug

From: "Richard Aubin" <aubinri@total.net>
Date: Sun, 8 Aug 1999 19:48:18 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-33386-1999.08.08-18.51.59--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

One interresting detail I found while investigating the problem is that
it only shows when the beacon interval is over 59 seconds .
I tried for hours at 10, 30 and 45 seconds interval without any false
position transmitted
and a soon as I passed over 57 second they appeared steadily.

 Maybe   it's just the precision of the timing loops that not high
enough and after this
particular amount of time , it skips one bit and the rest all goes wild .
????

I was using   a Garmin 12 in simulate mode always at the same position
,
and I am feeding the PIC's data out to a MAX 232 to convert to RS 232
level and then
 decoding the data on a data analyser in   SDLC NRZI 8 bits shifted
ASCII format to isolate
any RF or modem problems .

I am programming my PIC using   GPS-2-E last version.

I tried programming using the PIC-E   vers. 0.90 with MPASM assembler
with the
/t4 /q switch but without any luck . The PICPROG giving an error in the
 first address
and my PICSTART 16B giving some timing errors. When transmitting the
first beacon ,
the PTT was way too long (over 15 seconds) . Looked at OPTIONS.ASM
file
but did'n see any clue there of a timing variable of some kind .

Will keep looking , unless some one has a clue .

Richard VE2DJE

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14. [picsig] Re: False position problem looks like a software bug

From: "Byon Garrabrant" <byon@mail.com>
Date: Sun, 8 Aug 1999 18:35:58 -0700
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-33395-1999.08.08-20.45.37--lyris.picsig#tapr.org@lists.tapr.org>

Rendered body type: text/plain

On 8 Aug 99, at 19:48, Richard Aubin wrote:

> I tried programming using the PIC-E   vers. 0.90 with MPASM assembler
> with the /t4 /q switch but without any luck . The PICPROG giving an
> error in the
> first address

You may want to try PIX and a short serial cable. That gave me
the best luck.

> Will keep looking , unless some one has a clue .

Can you capture the GPS output to a file, then play it back out the
computer serial port into the PIC-E and cause the problem to
occur? If so you can send me a copy of the file, and I can try and
reproduce the problem.

Byon

_____
 Byon Garrabrant   N6BG   byon@mail.com

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15. [picsig] What is it??

From: "Brian B. Riley" <brianbr@macconnect.com>
Date: Mon, 9 Aug 1999 08:28:51 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-33455-1999.08.09-07.38.18--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

A friend of mine was camping last week and a young boy in the campground
accidently broke one of his Dodge Caravan's windows with a baseball. In
the process of sweeping up the glas whihc sprayed all over inside he
found a small box velcroed under one of the front seats. They had bought
this van used about 16 months ago.

The box is 2 pieces of black painted (crackle finish) sheet metal about
4"x8"x.75" rounded on the long edges and held togther with 6 torx screws.
Held with the labels facing me it has what looks like a standard cellular
threaded RF connector coming out of the top thin end left side and a
DB-25 male connector centered slightly right of coneter as well.. Abou
one third of the way down the right hand thin edge from that same 'top'
reference is an RJ-45 femal connector.

There is a huge label with barcodes that say

 SUN1905WC CT 257H
 E07D797D
 187W-6-00-6059
 58IRC295 H9

Thne there is smaller less permanent seeming label that reads

Man by Motorola INC
FCC ID: IHDT58Z1 EE 3
MODEL: 19349WNMSB
MSN: 327GXJ3533Y
Tx POWER OUTPUT 3W
Canada: 109 182 197 TYPE DNKA
PRI PWR 12 VDC NEG GRND

It had wires and connectors to all three connectors but no obvious
antenna anywhere. Cellular seems like my first guess or is this some form
of LoJack ... inquiring minds wish to know. I cannot see anyone leaving a
normal cell unit in a vehicle and the RJ45 connector was connected to a
wire, not open awaiting a handset to be connected. We haven't had time to
trace any of the wires yet.

Anyone knwo what this thing is?

Brian B. Riley --> http://members.macconnect.com/~brianbr

```
 For PGP Keys  <mailto:brianbr@wulfden.org?subject=Get%20PGP%20Key>

  "Smith & Wesson: The original point and click interface."



---
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```

16. [picsig] Re: What is it??

```
From: "D. F. Welch" <amersci@flash.net>
Date: Mon, 09 Aug 1999 05:39:03 -0700
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-33456-1999.08.09-07.51.24--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

This is the automobile manufacturers equivalent of a black box recorder as
used
on aircraft.  It records speed etc prior to a crash.

Some auto makers are putting them in certain models.

Wait 'til your insurance Co. says someday ..."
Claim denied,  your data recorder indicates that you
 were exceeding the speed limit at the time of the accident" :)

-Dan - W6DFW

----------------------------------------------------------------
At 08:28 AM 8/9/99 -0400, you wrote:
>A friend of mine was camping last week and a young boy in the campground
>accidently broke one of his  Dodge Caravan's windows with a baseball. In
>the process of sweeping up the glas whihc sprayed all over inside he
>found a small box velcroed under one of the front seats. They had bought
>this van used about 16 months ago.
>
>The box is 2 pieces of  black painted (crackle finish) sheet metal about
>4"x8"x.75" rounded on the long edges and held togther with 6 torx screws.
>Held with the labels facing me it has what looks like a standard cellular
>threaded RF connector coming out of the top thin end left side and a
>DB-25 male connector centered slightly right of coneter as well.. Abou
>one third of the way down the right hand thin edge from that same 'top'
>reference is an RJ-45 femal connector.
>
>There is a huge label with barcodes that say
>
> SUN1905WC CT 257H
> E07D797D
> 187W-6-00-6059
> 58IRC295 H9
>
>Thne there is smaller less permanent seeming label that reads
>
>Man by Motorola INC
>FCC ID: IHDT58Z1 EE 3
>MODEL: 19349WNMSB
>MSN: 327GXJ3533Y
>Tx POWER OUTPUT 3W
>Canada: 109 182 197 TYPE DNKA
>PRI PWR 12 VDC NEG GRND
>
>It had wires and connectors to all three connectors but no obvious
>antenna anywhere. Cellular seems like my first guess or is this some form
>of LoJack ... inquiring minds wish to know. I cannot see anyone leaving a
>normal cell unit in a vehicle and the RJ45 connector was connected to a
>wire, not open awaiting a handset to be connected. We haven't had time to
>trace any of the wires yet.
>
>Anyone knwo what this thing is?
>
>
>
>Brian B. Riley --> http://members.macconnect.com/~brianbr
> For PGP Keys  <mailto:brianbr@wulfden.org?subject=Get%20PGP%20Key>
>
>  "Smith & Wesson: The original point and click interface."
>
>
```

>
>---
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>To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org
>
>
>

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17. [picsig] Re: What is it??

From: John Rauch <n4jhr@earthlink.net>
Date: Mon, 09 Aug 1999 09:24:37 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-33465-1999.08.09-08.30.26--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

There has been quite a bit of public discussion regarding the "privacy
rights" violation that these few "test" unit are invading.. Be glad he
found it and it is gone... John

At 08:28 AM 8/9/99 -0400, you wrote:
>A friend of mine was camping last week and a young boy in the campground
>accidently broke one of his Dodge Caravan's windows with a baseball. In
>the process of sweeping up the glas whihc sprayed all over inside he
>found a small box velcroed under one of the front seats. They had bought
>this van used about 16 months ago.
>
>The box is 2 pieces of black painted (crackle finish) sheet metal about
>4"x8"x.75" rounded on the long edges and held togther with 6 torx screws.
>Held with the labels facing me it has what looks like a standard cellular
>threaded RF connector coming out of the top thin end left side and a
>DB-25 male connector centered slightly right of coneter as well.. Abou
>one third of the way down the right hand thin edge from that same 'top'
>reference is an RJ-45 femal connector.
>
>There is a huge label with barcodes that say
>
> SUN1905WC CT 257H
> E07D797D
> 187W-6-00-6059
> 58IRC295 H9
>
>Thne there is smaller less permanent seeming label that reads
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>MODEL: 19349WNMSB
>MSN: 327GXJ3533Y
>Tx POWER OUTPUT 3W
>Canada: 109 182 197 TYPE DNKA
>PRI PWR 12 VDC NEG GRND
>
>It had wires and connectors to all three connectors but no obvious
>antenna anywhere. Cellular seems like my first guess or is this some form
>of LoJack ... inquiring minds wish to know. I cannot see anyone leaving a
>normal cell unit in a vehicle and the RJ45 connector was connected to a
>wire, not open awaiting a handset to be connected. We haven't had time to
>trace any of the wires yet.
>
>Anyone knwo what this thing is?
>
>
>
>Brian B. Riley --> http://members.macconnect.com/~brianbr
> For PGP Keys <mailto:brianbr@wulfden.org?subject=Get%20PGP%20Key>
>
> "Smith & Wesson: The original point and click interface."
>
>
>
>---
>You are currently subscribed to picsig as: n4yxs@earthlink.net
>To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org
>
>
>

John Rauch, Control Operator for
Amateur Radio Station N4JHR
c/o 1450 West Lake Brantley Road
Longwood, Florida 32779-4766
(407)869-1450, (407)869-6658 Fax
n4jhr@eamil.com
Lat. N28 41.128, Lon. W081 26.155

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18. [picsig] Off-Topic : http://www.alladvantage.com

From: "Marcelo Puhl" <mark@plug-in.com.br>
Date: Mon, 9 Aug 1999 13:45:07 -3
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-33482-1999.08.09-11.54.04--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi,

Sorry for the off-topic, but I'd like to
know if this service really works.

The site is at :

http://www.alladvantage.com

Any comments about it would be welcome.

In case you decide to join the service,
please don't forget to mention my
referre's ID :

DTJ-608

Thanks.

Marcelo Puhl
mark@plug-in.com.br

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

19. [picsig] RE: Off-Topic : http://www.alladvantage.com

From: "Daniel Velez" <dvelez@citizen.infi.net>
Date: Mon, 9 Aug 1999 17:10:21 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-33497-1999.08.09-16.15.30--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

List moderator: Bounce this guy, would you?

> -----Original Message-----
> From: bounce-picsig-8671@lists.tapr.org
> [mailto:bounce-picsig-8671@lists.tapr.org]On Behalf Of Marcelo Puhl
> Sent: Monday, August 09, 1999 12:45
> To: TAPR PIC Development Special Interest Group
<edited> Subject: [picsig] Off-Topic : http://www.alladvXXXXXXXXXXXXX
>
>
> Hi,
>
> Sorry for the off-topic, but I'd like to
> know if this service really works.
>
> The site is at :
<snipped>

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20. [picsig] Re: What is it??

From: G Sanders <gsanders1@bigfoot.com>
Date: Mon, 09 Aug 1999 19:07:25 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-33511-1999.08.09-18.17.38--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

One question - About how old is the car?

This thing sound like an old Motorola analog cell phone. It's
the same box that's in the "bag phones" (and used as mobile cell
phones) that Motorola sold so many of about 6 or 8 years ago
(in the olden days!). I used to have one of these things - as I
recall, the handset and cradle assembly plugged into the RJ-45
jack, and the DB connector was used for power, external speaker
& mic for speakerphone option, horn relay connection, etc. And
for programming with a PC.

I don't remember too many details about it, as it's been a while
since I've used one.

Gary Sanders

"Brian B. Riley" wrote:
>
> A friend of mine was camping last week and a young boy in the campground
> accidently broke one of his Dodge Caravan's windows with a baseball. In
> the process of sweeping up the glas whihc sprayed all over inside he
> found a small box velcroed under one of the front seats. They had bought
> this van used about 16 months ago.
>
> The box is 2 pieces of black painted (crackle finish) sheet metal about
> 4"x8"x.75" rounded on the long edges and held togther with 6 torx screws.
> Held with the labels facing me it has what looks like a standard cellular
> threaded RF connector coming out of the top thin end left side and a
> DB-25 male connector centered slightly right of coneter as well.. Abou
> one third of the way down the right hand thin edge from that same 'top'
> reference is an RJ-45 femal connector.
>

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21. [picsig] Re: What is it??

From: "Jim K." <jim@madpower.com>
Date: Mon, 9 Aug 1999 21:04:58 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-33526-1999.08.09-20.10.51--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I have one, It's a cell phone.   Same connectors, same wording on the label.
Don't toss it, I can't help but to keep looking at it and think what a great
project box it will make some day. It also has a cool 27C512 EPROM.

 Jim Krutzler A.K.A. "Jimbo K"

 Home Page: http://www.madpower.com

 mailto:jim@madpower.com
 mailto:kb2uoi@amsat.org

 Ham Radio call: KB2UOI
 Phone/Fax 732.248.4479

 Attitude is Everything!

_____
_

>A friend of mine was camping last week and a young boy in the campground
>accidently broke one of his Dodge Caravan's windows with a baseball. In
>the process of sweeping up the glas whihc sprayed all over inside he
>found a small box velcroed under one of the front seats. They had bought
>this van used about 16 months ago.
>
>The box is 2 pieces of black painted (crackle finish) sheet metal about
>4"x8"x.75" rounded on the long edges and held togther with 6 torx screws.
>Held with the labels facing me it has what looks like a standard cellular
>threaded RF connector coming out of the top thin end left side and a

>DB-25 male connector centered slightly right of coneter as well.. Abou
>one third of the way down the right hand thin edge from that same 'top'
>reference is an RJ-45 femal connector.
>
>There is a huge label with barcodes that say
>
> SUN1905WC CT 257H
> E07D797D
> 187W-6-00-6059
> 58IRC295 H9
>
>Thne there is smaller less permanent seeming label that reads
>
>Man by Motorola INC
>FCC ID: IHDT58Z1 EE 3
>MODEL: 19349WNMSB
>MSN: 327GXJ3533Y
>Tx POWER OUTPUT 3W
>Canada: 109 182 197 TYPE DNKA
>PRI PWR 12 VDC NEG GRND
>
>It had wires and connectors to all three connectors but no obvious
>antenna anywhere. Cellular seems like my first guess or is this some form
>of LoJack ... inquiring minds wish to know. I cannot see anyone leaving a
>normal cell unit in a vehicle and the RJ45 connector was connected to a
>wire, not open awaiting a handset to be connected. We haven't had time to
>trace any of the wires yet.
>
>Anyone knwo what this thing is?
>
>
>
>Brian B. Riley --> http://members.macconnect.com/~brianbr
> For PGP Keys <mailto:brianbr@wulfden.org?subject=Get%20PGP%20Key>
>
> "Smith & Wesson: The original point and click interface."
>
>
>
>---
>You are currently subscribed to picsig as: kb2uoi@amsat.org
>To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org
>

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

22. [picsig] PICE095 uploaded to TAPR

From: "Byon Garrabrant" <byon@mail.com>
Date: Tue, 10 Aug 1999 00:10:17 -0700
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-33584-1999.08.10-02.19.45--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I have just uploaded pice095.zip to the TAPR ftp site. It should be
moved over to software shortly. It replaces pice090.zip.

Changes include:

The PIC-E will now flash the VALID LED three times quickly when
the device first powers up. This is useful to tell that your code was
correctly copied to the chip. It's the same as picediag.

Changed the default code to IGNORE mic PTT_IN. Most PIC-Es
out there have probably not been MODed to correct this, and most
are probably being used as trackers. If no mic is connected to the
original PIC-E, it would sometimes incorrectly assume the mic
PTT_IN was being pressed, and thus never unkey PTT_OUT. To
use the PIC-E in the MIC-E mode (with a mic in connected),
uncomment the two lines marked in TIMING.ASM

Changed the default options to not have so many WIDEs.

Byon

_____
 Byon Garrabrant   N6BG   byon@mail.com

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

23. [picsig] PIC-E Tracker - Anyone done it?

From: Hosking William-P05328 <Bill.Hosking@motorola.com>
Date: Tue, 10 Aug 1999 09:14:06 -0700
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-33612-1999.08.10-11.23.42--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I built a PIC-E a month ago or so. After verifying on a local loop that it
was doing the right thing and that WinAPRS recognized/plotted the
transmission, I put it on the air and discovered none of our 3 digis
responded to it. Digging into the MIC-E format I saw a cryptic little note
on SSID capable repeaters.

My C programming is rusty (and assembly language even worse) so I was
wondering if any of you programming wonders out there in PIC land had
attempted to produce a tracker output similar to what a KPC3/GPS combination
produces?

As a side note, I never did get the on-board programmer to work - I built
the Oct '98 QST programmer and it works like a champ.

Bill, W7JSW
billh@inficad.com
http://www.inficad.com/~billh

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

24. [picsig] Re: PICE095 uploaded to TAPR

From: "Steven R. Bible" <srbible@gate.net>
Date: Tue, 10 Aug 1999 20:00:31 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-33653-1999.08.10-19.08.49--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

The files

pice095.txt and
pice095.zip

are available in the picsig/software directory.

Have fun!

- Steve

At 12:10 AM 8/10/99 -0700, you wrote:
>I have just uploaded pice095.zip to the TAPR ftp site. It should be
>moved over to software shortly. It replaces pice090.zip.
>
>Changes include:
>
>The PIC-E will now flash the VALID LED three times quickly when
>the device first powers up. This is useful to tell that your code was
>correctly copied to the chip. It's the same as picediag.
>
>Changed the default code to IGNORE mic PTT_IN. Most PIC-Es
>out there have probably not been MODed to correct this, and most
>are probably being used as trackers. If no mic is connected to the
>original PIC-E, it would sometimes incorrectly assume the mic
>PTT_IN was being pressed, and thus never unkey PTT_OUT. To
>use the PIC-E in the MIC-E mode (with a mic in connected),
>uncomment the two lines marked in TIMING.ASM
>
>Changed the default options to not have so many WIDEs.
>
>Byon
>_____________________________________
> Byon Garrabrant   N6BG   byon@mail.com

```
- Steve, N7HPR
  n7hpr@tapr.org
  n7hpr@amsat.org


---
You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org
```

25. [picsig] Re: PICE095 uploaded to TAPR

From: "Richard C. Bandla" <rbandla@voicelogix.ca>
Date: Tue, 10 Aug 1999 20:15:51 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-33656-1999.08.10-19.25.30--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

```
Can this software switch, be translated to a HEX patch or something, for
non-compiler folks or better yet, changed via one of the front panel switches?

Also - does the programmer actually verify after it finishes programming?
If not - this would be a nice feature. I tried gps-e-2c last weekend and
could not program so output a file, then went to picprog06 and programmed.
I tried about 5 times using it and it kept saying it programmed the chip
but when i did a read - the data had a lot of blanks in it. Suddenly after
the 5th try - the programming worked fine. This exact sequence has happened
before - this is one of the 50 prototypes but I have now carefully put all
the mods on it and it is now electrically exactly identical to the
schematic which i downloaded. The pc is an old 486DX266 desktop running
Win95 - it generally is easy to get along with, that's why i keep it around.

Regards. Rick (VE3CVG/VA3RCB)

At 08:00 PM 1999-08-10 -0400, you wrote:
>The files
>
>pice095.txt  and
>pice095.zip
>
>are available in the picsig/software directory.
>
>Have fun!
>
>- Steve
>
>
>
>At 12:10 AM 8/10/99 -0700, you wrote:
>>I have just uploaded pice095.zip to the TAPR ftp site.  It should be
>>moved over to software shortly.  It replaces pice090.zip.
>>
>>Changes include:
>>
>>The PIC-E will now flash the VALID LED three times quickly when
>>the device first powers up.  This is useful to tell that your code was
>>correctly copied to the chip.  It's the same as picediag.
>>
>>Changed the default code to IGNORE mic PTT_IN.  Most PIC-Es
>>out there have probably not been MODed to correct this, and most
>>are probably being used as trackers.  If no mic is connected to the
>>original PIC-E, it would sometimes incorrectly assume the mic
>>PTT_IN was being pressed, and thus never unkey PTT_OUT.  To
>>use the PIC-E in the MIC-E mode (with a mic in connected),
>>uncomment the two lines marked in TIMING.ASM
>>
>>Changed the default options to not have so many WIDEs.
>>
>>Byon
>>_____________________________________
>> Byon Garrabrant   N6BG   byon@mail.com
>
>- Steve, N7HPR
>  n7hpr@tapr.org
>  n7hpr@amsat.org
>
>
>---
>You are currently subscribed to picsig as: ve3cvg@rac.ca
>To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org
>
```

>
>
1355 Minogue Cres., Cumberland, ON, Canada K4C1B4
phone 613 833-2787 (home)   fax 613 833 3032
phone 613 833-1950 (work)

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

26. [picsig] Re: PICE095 uploaded to TAPR

From: "Steven R. Bible" <srbible@gate.net>
Date: Tue, 10 Aug 1999 20:30:41 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-33657-1999.08.10-19.39.03--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hello Rick,

The answer is yes, it could. But the file options.asm needs to have your
callsign and customizations in it prior to assembly.

But can I encourage you to assemble the program yourself? The assembler is
free from Microchip (http://www.microchip.com) and it will create the *.hex
file needed to program into the pic using either PIX or PICPROG.

- Steve

At 08:15 PM 8/10/99 -0400, you wrote:
>Can this software switch, be translated to a HEX patch or something, for
>non-compiler folks or better yet, changed via one of the front panel
switches?
>
>Also - does the programmer actually verify after it finishes programming?
>If not - this would be a nice feature. I tried gps-e-2c last weekend and
>could not program so output a file, then went to picprog06 and programmed.
>I tried about 5 times using it and it kept saying it programmed the chip
>but when i did a read - the data had a lot of blanks in it. Suddenly after
>the 5th try - the programming worked fine. This exact sequence has happened
>before - this is one of the 50 prototypes but I have now carefully put all
>the mods on it and it is now electrically exactly identical to the
>schematic which i downloaded. The pc is an old 486DX266 desktop running
>Win95 - it generally is easy to get along with, that's why i keep it around.
>
>Regards. Rick (VE3CVG/VA3RCB)
>
>At 08:00 PM 1999-08-10 -0400, you wrote:
>>The files
>>
>>pice095.txt and
>>pice095.zip
>>
>>are available in the picsig/software directory.
>>
>>Have fun!
>>
>>- Steve
>>
>>
>>
>>At 12:10 AM 8/10/99 -0700, you wrote:
>>>I have just uploaded pice095.zip to the TAPR ftp site. It should be
>>>moved over to software shortly. It replaces pice090.zip.
>>>
>>>Changes include:
>>>
>>>The PIC-E will now flash the VALID LED three times quickly when
>>>the device first powers up. This is useful to tell that your code was
>>>correctly copied to the chip. It's the same as picediag.
>>>
>>>Changed the default code to IGNORE mic PTT_IN. Most PIC-Es
>>>out there have probably not been MODed to correct this, and most
>>>are probably being used as trackers. If no mic is connected to the
>>>original PIC-E, it would sometimes incorrectly assume the mic
>>>PTT_IN was being pressed, and thus never unkey PTT_OUT. To
>>>use the PIC-E in the MIC-E mode (with a mic in connected),

>>>uncomment the two lines marked in TIMING.ASM
>>>
>>>Changed the default options to not have so many WIDEs.
>>>
>>>Byon
>>>_____
>>> Byon Garrabrant   N6BG   byon@mail.com
>>
>>- Steve, N7HPR
>> n7hpr@tapr.org
>> n7hpr@amsat.org
>>
>>
>>---
>>You are currently subscribed to picsig as: ve3cvg@rac.ca
>>To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org
>>
>>
>>
>1355 Minogue Cres., Cumberland, ON, Canada K4C1B4
>phone 613 833-2787 (home)   fax 613 833 3032
>phone 613 833-1950 (work)
>
>
>---
>You are currently subscribed to picsig as: srbible@gate.net
>To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org
>
>
>
- Steve, N7HPR
  n7hpr@tapr.org
  n7hpr@amsat.org

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

27. [picsig] Finally OK

From: "Richard Aubin" <aubinri@total.net>
Date: Tue, 10 Aug 1999 21:04:38 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-33661-1999.08.10-20.17.56--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Thanks to Byon's posting on the news group , I found my problem ,
just a pull up on the PTT IN line and everything OK .

No False position when I use the compiled PIC-E vers 090 .

My compiling and programming if the chip was right all along except for
the
open PTT in line on my reduced size PCB.

Thanks

73 Rich

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

28. [picsig] Re: PIC-E Tracker - Anyone done it?

From: "Byon Garrabrant" <byon@mail.com>
Date: Tue, 10 Aug 1999 23:56:16 -0700
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-33718-1999.08.11-02.06.09--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On 10 Aug 99, at 9:14, Hosking William-P05328 wrote:

> I built a PIC-E a month ago or so. After verifying on a local loop that it
> was doing the right thing and that WinAPRS recognized/plotted the
> transmission, I put it on the air and discovered none of our 3 digis
> responded to it. Digging into the MIC-E format I saw a cryptic little note
> on SSID capable repeaters.

What was this note? I haven't seen it?

> My C programming is rusty (and assembly language even worse) so I was
> wondering if any of you programming wonders out there in PIC land had
> attempted to produce a tracker output similar to what a KPC3/GPS
> combination produces?

Well, we could do it, in fact the original code did just that, but it
meant longer packets.   It would be better to figure out why the
digis won't repeat first.

> As a side note, I never did get the on-board programmer to work - I built
> the Oct '98 QST programmer and it works like a champ.

Unfortunately, I think this may be common. I have made it work,
but sometimes it doesn't. Reboots, short cables, erasing first,
several tries, and different software eventually gets mine working. I
am glad to hear it didn't hold you back!!

Byon

____
 Byon Garrabrant   N6BG   byon@mail.com

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

29. [picsig] Serial to NTSC

From: Ray Vaughan <ray@rayvaughan.com>
Date: Wed, 11 Aug 1999 10:48:22 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-33777-1999.08.11-14.15.58--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Just saw something in the most recent Jameco catalog that might be of some
interest to you..

Page 15, lower left. Video Text Display Module. It's a 30-pin SIM that
takes 9600 baud async and outputs NTSC video. P/N 162051, $79.95.

http://www.jameco.com/cfm/viewdesc.cfm?part_num=162051

Seems like you could output to this from a PIC and display it on a TV, or
one of those new mobiles with a NTSC video input. Maybe for message
display, ignore all packets except messages or bulletins. Add some memory
and a click to the PIC advances to the next message. Any lightbulbs going
off out there? ;)

Idea for small cheap NTSC display devices...LCD viewfinders from otherwise
broken camcorders.

Ray J. Vaughan, MS, CBTE
KD4BBM
ray@rayvaughan.com
http://www.rayvaughan.com/

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

30. [picsig] Re: PIC-E Tracker - Anyone done it?

From: John Hansen <hansen@ait.fredonia.edu>
Date: Tue, 10 Aug 1999 17:54:53 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-33820-1999.08.11-19.45.57--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hosking William-P05328 wrote:
>
> I built a PIC-E a month ago or so. After verifying on a local loop that it
> was doing the right thing and that WinAPRS recognized/plotted the
> transmission, I put it on the air and discovered none of our 3 digis
> responded to it. Digging into the MIC-E format I saw a cryptic little note
> on SSID capable repeaters.
>

If you were using GPS-2-E, you should try it again with the new release

of the software. It took me a long time to figure out that the
Kantronics units want to see more than one flag at the end of each
transmission. With the latest version, my KPC-3 will now recognize it.

John, W2FS

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

31. [picsig] Re: PIC-E Tracker - Anyone done it?

From: James Jefferson <jjeffers@deskmedia.com>
Date: Wed, 11 Aug 1999 21:44:49 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-33828-1999.08.11-21.51.12--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>If you were using GPS-2-E, you should try it again with the new release
>of the software. It took me a long time to figure out that the
>Kantronics units want to see more than one flag at the end of each
>transmission. With the latest version, my KPC-3 will now recognize it.

I've working on DCD stuff and I might advise another change. Most DCD state
engines require about 6 to 8 characters in order to lock on a data signal.
Not a problem if you have a TXDELAY which is sending FE, but it might be if
you have a MIC-E that cuts in after a voice transmission.

This afternoon I took N7CL's State 2.0 data and put it into a PIC.
Basically it is a modern DCD state machine that fits in a 12C509, instead
of a 74HC374 and 27C64. I will post the code one of these days, and
hopefully I will eventually offer pre-programmed PICS. Having a real DCD is
the only way to go!

Once again, note that I'm not trying to compete with TAPR's DCD kit. I
bought the last DCD kit a few days ago - so I'm filling in a void.

-James Jefferson KB0THN
jjeffers@deskmedia.com

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

32. [picsig] Re: picsig digest: August 11, 1999

From: "Marcelo Puhl" <mark@plug-in.com.br>
Date: Thu, 12 Aug 1999 09:49:25 -3
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-33885-1999.08.12-07.58.22--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>
> I've working on DCD stuff and I might advise another change. Most DCD
> state engines require about 6 to 8 characters in order to lock on a data
> signal. Not a problem if you have a TXDELAY which is sending FE, but it
> might be if you have a MIC-E that cuts in after a voice transmission.
>
> -----
>
> This afternoon I took N7CL's State 2.0 data and put it into a PIC.
> Basically it is a modern DCD state machine that fits in a 12C509, instead
> of a 74HC374 and 27C64. I will post the code one of these days, and
> hopefully I will eventually offer pre-programmed PICS. Having a real DCD
> is the only way to go!
>
> Once again, note that I'm not trying to compete with TAPR's DCD kit. I
> bought the last DCD kit a few days ago - so I'm filling in a void.
>
> -James Jefferson KB0THN
> jjeffers@deskmedia.com
>
>

I did a 9600 bps modem on a PIC16F84 and used flag detection for DCD.

When I receive five flags sequentially, I set the DCD on.

It is very reliable ans simple to implement.

To set the DCD off, I look at the DPLL clock. When it runs free, I drop DCD.

Just an idea.

Get paid to surf the WEB !
Ganhe dinheiro enquanto surfa na Internet !

http://alladvantage.com/go.asp?refid=DTJ608

Marcelo Puhl
mark@plug-in.com.br

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

33. [picsig] Re: picsig digest: August 11, 1999

From: Tim Salo <salo@networkcs.com>
Date: Thu, 12 Aug 1999 17:25:44 -0500 (CDT)
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-33953-1999.08.12-17.35.24--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> From: "Marcelo Puhl" <mark@plug-in.com.br>
> Date: Thu, 12 Aug 1999 09:49:25 -3
> Subject: [picsig] Re: picsig digest: August 11, 1999
>
> When I receive five flags sequentially, I set the DCD on.

Why five flags? Did you try with fewer flags? Is this merely a matter
of reducing the probability of falsely asserting DCD?

(It seems like every component in the system requires a few more
flags or a few more milliseconds; it seems easier to reduce this
wasted time than to try to find more specturm...)

-tjs

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

34. [picsig] Re: PIC-E Tracker - Anyone done it?

From: "Byon Garrabrant" <byon@mail.com>
Date: Thu, 12 Aug 1999 23:14:00 -0700
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-34095-1999.08.13-01.24.02--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On 11 Aug 99, at 21:44, James Jefferson wrote:

> >If you were using GPS-2-E, you should try it again with the new release
> >of the software. It took me a long time to figure out that the
> >Kantronics units want to see more than one flag at the end of each
> >transmission. With the latest version, my KPC-3 will now recognize it.
>
> I've working on DCD stuff and I might advise another change. Most DCD
> state engines require about 6 to 8 characters in order to lock on a data
> signal. Not a problem if you have a TXDELAY which is sending FE, but it
> might be if you have a MIC-E that cuts in after a voice transmission.

PICE095 sends (by default) 40 flags in auto, and 5 flags in manual
(after voice) and this seems to work.

BUT!!!!

Don't depend on seeing more than one flag byte. In my PeekPack
studies, I found some TNCs only send 1 flag byte before the data.
My PKTIN01 code assumes 3, so it must be changed. KPC's
send many (depending on TXDelay), but some TNCs I monitored off
the air (I don't know which ones) only sent 1 flag before the data.
This took an evening of bit-pattern studing to learn.

Byon

_____
 Byon Garrabrant   N6BG   byon@mail.com

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

35. [picsig] DCD & Flags

From: "Marcelo Puhl" <mark@plug-in.com.br>
Date: Fri, 13 Aug 1999 09:38:25 -3
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-34131-1999.08.13-07.47.20--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>
> Subject: Re: picsig digest: August 11, 1999
> From: Tim Salo <salo@networkcs.com>
> Date: Thu, 12 Aug 1999 17:25:44 -0500 (CDT)
> X-Message-Number: 2
>
> > From: "Marcelo Puhl" <mark@plug-in.com.br>
> > Date: Thu, 12 Aug 1999 09:49:25 -3
> > Subject: [picsig] Re: picsig digest: August 11, 1999
> >
> > When I receive five flags sequentially, I set the DCD on.
>
> Why five flags? Did you try with fewer flags? Is this merely a matter of
> reducing the probability of falsely asserting DCD?

I'll try it with one or two flags to see if it works.

73,
    Marcelo - PY3SS

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

36. [picsig] IPic - A Match Head Sized Web-Server

From: Tim Salo <salo@networkcs.com>
Date: Fri, 13 Aug 1999 10:13:28 -0500 (CDT)
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-34158-1999.08.13-10.22.45--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

For an interesting PIC-based Internet node see:

        http://www-ccs.cs.umass.edu/~shri/iPic.html

-tjs

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

37. [picsig] Re: IPic - A Match Head Sized Web-Server

From: James Jefferson <jjeffers@deskmedia.com>
Date: Fri, 13 Aug 1999 15:09:40 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-34183-1999.08.13-15.15.59--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>For an interesting PIC-based Internet node see:
>
>   http://www-ccs.cs.umass.edu/~shri/iPic.html

Yeah, too bad it is a fake... The experts all say that nobody could
implement all of that in 1024 words. The fact that he won't release his
source code also reaffirms that notion.

-James Jefferson KB0THN

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

38. [picsig] Re: PIC-E Tracker - Anyone done it?

From: G Sanders <gsanders1@bigfoot.com>
Date: Fri, 13 Aug 1999 16:34:36 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-34185-1999.08.13-15.44.06--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Byon Garrabrant wrote:
>
> Don't depend on seeing more than one flag byte. In my PeekPack
> studies, I found some TNCs only send 1 flag byte before the data.
> My PKTIN01 code assumes 3, so it must be changed. KPC's
> send many (depending on TXDelay), but some TNCs I monitored off
> the air (I don't know which ones) only sent 1 flag before the data.
> This took an evening of bit-pattern studing to learn.

It's been a _bunch_ of years since I've played with a
Data Line Monitor on synchronous circuits, and when I
did it was on wireline, rather than radio. So what I'm
about to suggest may not apply.

But I seem to remember that it took some period of
time for the data line monitor to sync to the flag
characters before they would be displayed on the
screen.

Could that be happening here? In other words, there
may be more flags, but by the time the monitoring
tool sync's, there's only 1 left to see?

As I said, it's been a bunch of years, so feel free
to flame if appropriate!

Gary Sanders

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

39. [picsig] $20 GPS module and antenna

From: Jeff King <jeff@aerodata.net>
Date: Fri, 13 Aug 1999 22:58:23 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-34238-1999.08.13-22.07.59--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Saw the following on the PICLIST

ElectroMarvin has the JRC CCA-285 gps module
plus mag mount antenna for $20. This is a expermeters
device, so know what you are doing if you buy one.

http://mavin.com/slickitems.html

-Jeff wb8wka

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

40. [picsig] Re: $20 GPS module and antenna

From: James Jefferson <jjeffers@deskmedia.com>
Date: Fri, 13 Aug 1999 22:22:08 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-34268-1999.08.13-22.28.41--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Anybody want to team up with me so we can save $5 on the minimum order fee?
I have an old Trimble Scoutmaster GPS, but I usually can't get it to talk
on its serial port very well... =0 This looks like good fun!

-James Jefferson

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

41. [picsig] Re: PIC-E Tracker - Anyone done it?

From: "Byon Garrabrant" <byon@mail.com>
Date: Fri, 13 Aug 1999 23:27:13 -0700
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-34288-1999.08.14-01.37.16--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On 13 Aug 99, at 16:34, G Sanders wrote:

> Byon Garrabrant wrote:
> >
> > Don't depend on seeing more than one flag byte. In my PeekPack
> > studies, I found some TNCs only send 1 flag byte before the data.
> > My PKTIN01 code assumes 3, so it must be changed. KPC's
> > send many (depending on TXDelay), but some TNCs I monitored off
> > the air (I don't know which ones) only sent 1 flag before the data. This
> > took an evening of bit-pattern studing to learn.
>
> It's been a _bunch_ of years since I've played with a
> Data Line Monitor on synchronous circuits, and when I
> did it was on wireline, rather than radio. So what I'm
> about to suggest may not apply.
>
> But I seem to remember that it took some period of
> time for the data line monitor to sync to the flag
> characters before they would be displayed on the
> screen.
>
> Could that be happening here? In other words, there
> may be more flags, but by the time the monitoring
> tool sync's, there's only 1 left to see?
>
> As I said, it's been a bunch of years, so feel free
> to flame if appropriate!
>
> Gary Sanders

I'll set for low :)

What you say makes sense, and I wouldn't be suprised if it applied
in another circumstance, but I was actually studying the bitstream
just after it was converted from audio, before the NRZI / flag
character detection code was applied, and there was definately
only 1 flag byte sent before the actual packet data. I should
probably re-decode the packets (I have the audio saved), find the
callsign / last digi, and find out what TNC is being used, just to
know. I know that Kantronics TNCs (at least the 9612) send
continuous flag bytes during the TXD time, but this one send other,
non-flag data during that time.

Unfortunately for the PIC-E TNC without added RAM project, this
will pose a problem, because we cannot assume we will get more
than one flag (as I was doing), and we cant start decoding/sending
whenever we do see a flag (6 1 bits), because if happens all the
time in the absense of audio, or during noise. Looks like we have
to capture it all, check CRC, and then send out! Bummer.

Nevertheless, thanks for the suggestion, Gary!

73,
Byon

_____
 Byon Garrabrant   N6BG   byon@mail.com

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

42. [picsig] OPTION.ASM notes

From: "Byon Garrabrant" <byon@mail.com>
Date: Fri, 13 Aug 1999 23:53:31 -0700

To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-34289-1999.08.14-02.03.13--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi all,

  I've received a request to clarify callsign settings in options.asm in pice095.zip a bit. I'll try and update the zip file with more detailed comments soon, but this should tide the curious over.

  In OPTIONS.ASM, the callsign of the sender, as well as any digipeaters s/he would like to use, must be entered for each configuration before assembling the code.

  The example code lists the following for configuration 1:

```
       dt      "N6BG  ", D'0' + H'30'  ; callsign and digis
       dt      "WIDE  ", D'0' + H'30'  ; callsign and digis
       dt      0
```

  The first line is the callsign of the sender, the second line is the callsign of the first digi, and the third line signifies that there are no other digis. The third line (dt 0) must always be present to mark the end of the callsign list. The above example is similar to entering:

```
MYCALL N6BG
UNPROTO APRS via WIDE
```

without the APRS part. You could choose to use multiple digis by adding them before or after the first, like so:

```
       dt      "N6BG  ", D'0' + H'30'  ; callsign and digis
       dt      "RELAY ", D'0' + H'30'  ; callsign and digis
       dt      "WIDE  ", D'0' + H'30'  ; callsign and digis
       dt      "GATE  ", D'0' + H'30'  ; callsign and digis
       dt      0
```

Or even have no digis at like, like so:

```
       dt      "N6BG  ", D'0' + H'30'  ; callsign and digis
       dt      0
```

The callsign of the sender (N6BG) and the digis (WIDE, etc.) must always be listed as six characters, padded with spaces. The code could have been written to allow fewer and then automatically add spaces later, but it was easier to do it this way. When the packet data is actually sent over the air, all callsigns are also 6 characters, padded with spaces. The callsign KD6BCH, being 6 character, would need no padding, and would be set like this:

```
       dt      "KD6BCH", D'0' + H'30'  ; callsign and digis
       dt      0
```

Since all US callsigns (maybe everywhere?) are less than or equal to 6 chars, (1 number and up to 5 letters) everyone should fit.

The SSID is set by the D'0'. The example sends from N6BG-0, but all TNCs leave off the SSID if it is 0. If I wanted to send from N6BG-15, via WIDE3-3 digi, I would use:

```
       dt      "N6BG  ", D'15' + H'30' ; callsign and digis
       dt      "WIDE3 ", D'3' + H'30'  ; callsign and digis
       dt      0
```

Note: the WIDE3 has only 1 padding space, now. The H'30' is needed for the packet encoding, and should be left as is in all cases. The setting of the low bit on the last byte of the last call/digi in the addess section in handled automatically. (If that doesn't make sense, forget it)

The destination callsign is not entered, because it is generated by the code dynamically to hold some of the position data. That's why MIC-E's and PIC-E's have a somewhat random looking dest callsign. It's for the compression.

I hope this clears up any confusion with regard to callsing entering. If anyone feels this or other sections needs further clarification, please let me know, and I would be happy to help.

73,
Byon

_____
Byon Garrabrant N6BG byon@mail.com

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43. [picsig] Re: $20 GPS module and antenna

From: "Jim K." <jim@madpower.com>
Date: Sat, 14 Aug 1999 18:08:11 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-34382-1999.08.14-17.14.18--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

HI,
    Do you know if these GPS units will work after the "Big" day? I think
its Aug. 23. If so, I'm interested and will team up. Is saving the $5 worth
it after shipping?

Jim Krutzler A.K.A. "Jimbo K"

Home Page: http://www.madpower.com

mailto:jim@madpower.com
mailto:kb2uoi@amsat.org

Ham Radio call: KB2UOI
Phone/Fax 732.248.4479

Attitude is Everything!
_____
_

>Anybody want to team up with me so we can save $5 on the minimum order fee?
>I have an old Trimble Scoutmaster GPS, but I usually can't get it to talk
>on its serial port very well... =0 This looks like good fun!
>
>-James Jefferson
>
>---
>You are currently subscribed to picsig as: kb2uoi@amsat.org
>To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org
>

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

44. [picsig] Re: $20 GPS module and antenna

From: James Jefferson <jjeffers@deskmedia.com>
Date: Sat, 14 Aug 1999 18:14:56 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-34385-1999.08.14-18.21.16--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>   Do you know if these GPS units will work after the "Big" day? I think
>its Aug. 23. If so, I'm interested and will team up. Is saving the $5 worth
>it after shipping?

It will save you $7.

$20 for GPS
$5 service charge
$5 shipping

Priority mail from me, $3.

List: I have openings for 2 more units (counting Jim Krutzler). I'm placing
my order on Monday.

-James Jefferson KB0THN
jjeffers@deskmedia.com
http://www.deskmedia.com/~jjeffers/

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

45. [picsig] Re: $20 GPS module and antenna

From: "Jim K." <jim@madpower.com>
Date: Sun, 15 Aug 1999 00:06:45 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-34407-1999.08.14-23.12.50--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Yes, Count me in.

Jim

Jim Krutzler A.K.A. "Jimbo K"

Home Page: http://www.madpower.com

mailto:jim@madpower.com
mailto:kb2uoi@amsat.org

Ham Radio call: KB2UOI
Phone/Fax 732.248.4479

Attitude is Everything!
_____
_

-----Original Message-----
From: James Jefferson <jjeffers@deskmedia.com>
To: TAPR PIC Development Special Interest Group <picsig@lists.tapr.org>
Date: Saturday, August 14, 1999 7:12 PM
Subject: [picsig] Re: $20 GPS module and antenna

>>   Do you know if these GPS units will work after the "Big" day? I think
>>its Aug. 23. If so, I'm interested and will team up. Is saving the $5
worth
>>it after shipping?
>
>It will save you $7.
>
>$20 for GPS
>$5 service charge
>$5 shipping
>
>Priority mail from me, $3.
>
>List: I have openings for 2 more units (counting Jim Krutzler). I'm placing
>my order on Monday.
>
>
>-James Jefferson KB0THN
>jjeffers@deskmedia.com
>http://www.deskmedia.com/~jjeffers/
>
>---
>You are currently subscribed to picsig as: kb2uoi@amsat.org
>To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org
>

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

46. [picsig] Re: $20 GPS module and antenna

From: "Jim Paul" <jamesp@intertex.net>
Date: Sat, 15 Jan 2000 08:30:17 -0600
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-34451-1999.08.15-08.38.03--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

James,

Put me down for two. Let me know how you want me to send you the money
($40.00).
If you want me to, I can put it on a credit card., or send you a check. Let
me know

Thanks and Regards,

Jim
-----Original Message-----
From: James Jefferson <jjeffers@deskmedia.com>
To: TAPR PIC Development Special Interest Group <picsig@lists.tapr.org>
Date: Saturday, August 14, 1999 5:12 PM
Subject: [picsig] Re: $20 GPS module and antenna

>>   Do you know if these GPS units will work after the "Big" day? I think
>>its Aug. 23. If so, I'm interested and will team up. Is saving the $5
worth
>>it after shipping?
>
>It will save you $7.
>
>$20 for GPS
>$5 service charge
>$5 shipping
>
>Priority mail from me, $3.
>
>List: I have openings for 2 more units (counting Jim Krutzler). I'm placing
>my order on Monday.
>
>
>-James Jefferson KB0THN
>jjeffers@deskmedia.com
>http://www.deskmedia.com/~jjeffers/
>
>---
>You are currently subscribed to picsig as: jamesp@intertex.net
>To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org
>

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

47. [picsig] PIC-E won't read NMEA

From: "Jukka Pappinen" <jukkapa@saunalahti.fi>
Date: Sun, 15 Aug 1999 11:37:8
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-34468-1999.08.15-11.46.33--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi,

I made some kind of PIC-E clone.
Works fine with "picediag" -program.
Then I tried pice v. 0.90 -program made by
Byon, N6BG. Machine transmits ok, but did not
read position from GPS.

Then I made a simple PC-program to
emulate different types of NMEA code and
connected my "PIC-E" to com port via MAX232.

Still nothing happens.
Pic-e transmits packets but "Error no GPS"
(or something like that) is the only
transmitted position... :-)

Any ideas where to start to find the solution?

73's
Jukka, OH6MWQ

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

48. [picsig] Re: PIC-E won't read NMEA

From: "Byon Garrabrant" <byon@mail.com>
Date: Sun, 15 Aug 1999 09:59:55 -0700
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-34474-1999.08.15-12.10.08--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On 15 Aug 99, at 11:37, Jukka Pappinen wrote:

> Hi,
>
> I made some kind of PIC-E clone.
> Works fine with "picediag" -program.
> Then I tried pice v. 0.90 -program made by
> Byon, N6BG. Machine transmits ok, but did not
> read position from GPS.
>
> Then I made a simple PC-program to
> emulate different types of NMEA code and
> connected my "PIC-E" to com port via MAX232.
>
> Still nothing happens.
> Pic-e transmits packets but "Error no GPS"
> (or something like that) is the only
> transmitted position... :-)
>
> Any ideas where to start to find the solution?
>

Three things come to mind to help solve this.

First, I have some code in PIC-E.ASM to dump to contents of the
NMEA decoded RAM in hex when you send a packet. If you
change the "if 0" to an "if 1" around line 173 (above
Packet_Send_Debug), you should see the all NMEA data before
you mic-e encode it. (Actually, it's just the bytes of the NMEA
string needed for MIC-E encoding)

However, from what you said, it sounds like the code does not
think it is receiving NMEA, so you may need to change
NMEA.ASM to just dump everything into the RAM in circular buffer
form, rather than looking for GPRMC and commas and such. That
way, when you transmit the hex dump, you will see the last few
chars received serially.

Lastly, just make sure you are sending 4800 N81, and that you
have a null modem adaptor installed if necessary (like if you are
using a PC). Check with a scope and make sure you see activity
on PORTA,0 (pin 17).

Good Luck, and let me know if you are still having problems, or if
you solve it.

Byon
> 73's
> Jukka, OH6MWQ
>
> ---
> You are currently subscribed to picsig as: byon@mail.com
> To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org
>

_____
 Byon Garrabrant   N6BG   byon@mail.com

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

49. [picsig] GPS Order closed (how can it be so popular?)

From: James Jefferson <jjeffers@deskmedia.com>
Date: Sun, 15 Aug 1999 17:28:30 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-34513-1999.08.15-17.35.47--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Okay everyone, I've got a good response for the GPS. I had no idea it would
be so popular. I'm running really close to my credit limit, so I can't do
some of the bigger requests. Anyway, you should order dirrectly from them
if you want more then 1.

As the case may be this is who I'm placing the order for on Monday:

Name	Quantity
Don Pfister KA0JLF	1
James Jefferson KB0THN	1
Jim Paul	2
Guy Story KC5GOI	1

If you could send a check or money order for $20 x Quantity + $3 shipping to:

James Jefferson KB0THN
Route 3 Box 88
Winona, Minnesota 55987

As soon as your check arrives I will ship. Don't write me a bad check - it
would hurt my feelings... =0

Everyone else who expressed interest; sorry! Next time before I volunteer I
will make sure that I have plently of money in my checking account. (silly
debit cards...)

-James Jefferson KB0THN
jjeffers@deskmedia.com
http://www.deskmedia.com/~jjeffers/

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

50. [picsig] Re: PIC-E won't read NMEA

From: "Jukka Pappinen" <jukkapa@saunalahti.fi>
Date: Mon, 16 Aug 1999 10:33:04 +0300
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-34586-1999.08.16-02.45.15--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Byon Garrabrant <byon@mail.com> wrote

>Lastly, just make sure you are sending 4800 N81, and that you
>have a null modem adaptor installed if necessary (like if you are
>using a PC).

I just understood that MAX232 acts as inverter. That might
work better if I put another after it.

>Check with a scope and make sure you see activity
>on PORTA,0 (pin 17).

Pin 17? In Pic-e schema I have (dated 4/5/99) the NMEA-data
from GPS goes to pin 18, and that is the port I have been
trying to use...

73's
Jukka, OH6MWQ
--
Jukka Pappinen
jukkapa@saunalahti.fi

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

51. [picsig] Re: PIC-E won't read NMEA

From: "Byon Garrabrant" <byon@mail.com>
Date: Mon, 16 Aug 1999 01:31:53 -0700
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-34587-1999.08.16-03.42.12--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On 16 Aug 99, at 10:33, Jukka Pappinen wrote:

> Byon Garrabrant <byon@mail.com> wrote
>
>
> >Lastly, just make sure you are sending 4800 N81, and that you
> >have a null modem adaptor installed if necessary (like if you are
> >using a PC).
>
> I just understood that MAX232 acts as inverter. That might
> work better if I put another after it.

The PIC-E is designed to not use a MAX232. If you do use one
(which could help serial IO on laptops), you need to invert all serial
IO in code.

> >Check with a scope and make sure you see activity
> >on PORTA,0 (pin 17).
>
> Pin 17? In Pic-e schema I have (dated 4/5/99) the NMEA-data
> from GPS goes to pin 18, and that is the port I have been
> trying to use...

Nope, my 4/5/99 shows pin 2 of the GPS DB9 is GPS->PIC-E,
which goes through the 22K res and into RA0 pin 17. Also,
SERIAL.ASM has

```
#define         SERIAL_IN                       PORTA, 0
```

and GPS-E-2c uses

```
#use rs232(baud=4800 ,rcv=PIN_A0,invert)
```

showing the code receives from RA0 (pin 17).

Either of these two items would cause the failure to decode NMEA
you were seeing.

Good Luck.

____
 Byon Garrabrant   N6BG   byon@mail.com

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

52. [picsig] Re: PIC-E won't read NMEA

From: "Jukka Pappinen" <jukkapa@saunalahti.fi>
Date: Mon, 16 Aug 1999 12:17:06 +0300
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-34590-1999.08.16-04.28.21--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Byon Garrabrant <byon@mail.com> wrote:

>The PIC-E is designed to not use a MAX232. If you do use one
>(which could help serial IO on laptops), you need to invert all serial
>IO in code.

>Nope, my 4/5/99 shows pin 2 of the GPS DB9 is GPS->PIC-E,
>which goes through the 22K res and into RA0 pin 17.

I thought pin 3 is the input pin and it goes trough JP2 to RA1 when
jumper is in N-position. :-)

Well, I changed the input to pin 17 and added an inverter gate
after MAX232. Works absolutely fine now.

Thanks for help!

BTW: Does anybody have any idea how to use Baycom style

modems with APRS - software?

- Jukka, OH6MWQ
--
Jukka Pappinen
jukkapa@saunalahti.fi

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

53. [picsig] Re: $20 GPS module and antenna

From: "Darryl Smith" <vk2tds@ozemail.com.au>
Date: Mon, 16 Aug 1999 20:10:41 +1000
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-34591-1999.08.16-05.18.13--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

G'Day

Has anyone thought of modifying the PIC-E to work with this GPS module. If
the two work together I will go out and buy 50 of the recievers tomorrow...
We are working on a group buy in Australia and are up to about 10 units... I
hope to order the 10 units tomorrow when I get a quote for shipping...

Darryl

Darryl Smith, VK2TDS   POBox 169 Ingleburn NSW 2565 Australia
Mobile Number 0412 929 634 [+61 4 12 929 634 International]

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

54. [picsig] Re: $20 GPS module and antenna

From: amersci@flash.net
Date: Mon, 16 Aug 1999 12:45:05 -0500 (CDT)
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-34633-1999.08.16-12.54.39--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Darryl,

     I have one of these GPS modules. As they say it is an experimenters
project. THE UNIT DOES NOT OUTPUT NMEA! The binary output from it REPORTEDLY
DOES NOT MATCH the documentation but I have not had time to prove this.

The board is rather large, approx 5" x 7" as GPS units go however the
actual GPS engine is around 2.5 inches by 4 inches. These measurements are
approximate since I don't have the unit in front of me at this time.

If you want the exact dimensions email me privately at dan.byonics.com

73

Dan Welch W6DFW
On Mon Aug 16 05:10:41 1999, "TAPR PIC Development Special Interest Group"
<picsig@lists.tapr.org> wrote:

> G'Day
>
> Has anyone thought of modifying the PIC-E to work with this GPS module. If
> the two work together I will go out and buy 50 of the recievers tomorrow...
> We are working on a group buy in Australia and are up to about 10 units... I
> hope to order the 10 units tomorrow when I get a quote for shipping...
>
> Darryl
> ---
> Darryl Smith, VK2TDS   POBox 169 Ingleburn NSW 2565 Australia
> Mobile Number 0412 929 634 [+61 4 12 929 634 International]
>
> ---
> You are currently subscribed to picsig as: amersci@flash.net
> To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

---
You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

55. [picsig] Re: $20 GPS module and antenna - email correction

From: amersci@flash.net
Date: Mon, 16 Aug 1999 12:48:52 -0500 (CDT)
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-34635-1999.08.16-12.58.23--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Darryl,

I have one of these GPS modules. As they say it is an experimenters project. THE UNIT DOES NOT OUTPUT NMEA! The binary output from it REPORTEDLY DOES NOT MATCH the documentation but I have not had time to prove this.

The board is rather large, approx 5" x 7" as GPS units go however the actual GPS engine is around 2.5 inches by 4 inches. These measurements are approximate since I don't have the unit in front of me at this time.

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73,

Dan Welch W6DFWOn Mon Aug 16 05:10:41 1999, "TAPR PIC Development Special Interest Group"
<picsig@lists.tapr.org> wrote:

> G'Day
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> Has anyone thought of modifying the PIC-E to work with this GPS module. If
> the two work together I will go out and buy 50 of the recievers tomorrow...
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> hope to order the 10 units tomorrow when I get a quote for shipping...
>
> Darryl
> ---------
> Darryl Smith, VK2TDS POBox 169 Ingleburn NSW 2565 Australia
> Mobile Number 0412 929 634 [+61 4 12 929 634 International]
>
> ---
> You are currently subscribed to picsig as: amersci@flash.net
> To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

---
You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

56. [picsig] Re: $20 GPS module and antenna

From: "Boissonneault, Martin (A)" <ve2mrx@amsat.org>
Date: Mon, 16 Aug 1999 14:43:38 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-34638-1999.08.16-13.54.17--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi All!
Just my .02$. The docs for the unit refer to the ENGINE, NOT the out of the box port. That was supposed to be connected to the display unit specific to that model. Look at the "how to make it work" messages on the web page...

Here is again: The outside port is for cooked data TO a display unit and is NOT connected to the GPS engine.

That's what I read in one of those "how to" messages of the web page.

Martin VE2MRX

-----Original Message-----
From: bounce-picsig-8639@lists.tapr.org
[mailto:bounce-picsig-8639@lists.tapr.org]On Behalf Of
amersci@flash.net
Sent: Monday, August 16, 1999 12:45
To: TAPR PIC Development Special Interest Group
Subject: [picsig] Re: $20 GPS module and antenna

Darryl,

     I have one of these GPS modules. As they say it is an
experimenters
project. THE UNIT DOES NOT OUTPUT NMEA! The binary output from it
REPORTEDLY
DOES NOT MATCH the documentation but I have not had time to prove
this.

The board is rather large, approx 5" x 7" as GPS units go however the
actual GPS engine is around 2.5 inches by 4 inches. These
measurements are
approximate since I don't have the unit in front of me at this time.

If you want the exact dimensions email me privately at dan.byonics.com

73

Dan Welch W6DFW
On Mon Aug 16 05:10:41 1999, "TAPR PIC Development Special Interest
Group"
<picsig@lists.tapr.org> wrote:

> G'Day
>
> Has anyone thought of modifying the PIC-E to work with this GPS
module. If
> the two work together I will go out and buy 50 of the recievers
tomorrow...
> We are working on a group buy in Australia and are up to about 10
units... I
> hope to order the 10 units tomorrow when I get a quote for
shipping...
>
> Darryl
> ---------
> Darryl Smith, VK2TDS   POBox 169 Ingleburn NSW 2565 Australia
> Mobile Number 0412 929 634 [+61 4 12 929 634 International]
>
> ---
> You are currently subscribed to picsig as: amersci@flash.net
> To unsubscribe send a blank email to
leave-picsig-6890E@lists.tapr.org

You are currently subscribed to picsig as: ve2mrx@iname.com
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

---
You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

57. [picsig] Re: $20 GPS module and antenna - email correction

From: "Sadowski, Allan" <allan.sadowski@ncshp.org>
Date: Mon, 16 Aug 1999 14:50:16 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-34639-1999.08.16-13.59.42--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

FYI Folks

Trimble has quite a number of units that are NOT Y2K compliant and a number
having GPS Roll-Over problems...   beware B4 you buy... check the Web
site to see if these devices are going to have problems during the roll-over

(next week?)...

If the price seems too good to be true... there's probably a reason...

ALOHA
AH6ls

> -----Original Message-----
> From: amersci@flash.net [SMTP:amersci@flash.net]
>
>
> GPS modules. As they say it is an
> experimenters
>   project. THE UNIT DOES NOT OUTPUT NMEA! The binary output
> from it
> REPORTEDLY
>   DOES NOT MATCH the documentation but I have not had time to
> prove
> this.
>
>

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58. [picsig] Re: $20 GPS module and antenna - email correction

From: Jeff King <jeff@aerodata.net>
Date: Mon, 16 Aug 1999 15:00:51 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-34643-1999.08.16-14.10.39--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

"Sadowski, Allan" wrote:

> FYI Folks
>
> Trimble has quite a number of units that are NOT Y2K compliant and a number
> having GPS Roll-Over problems...   beware B4 you buy... check the Web
> site to see if these devices are going to have problems during the roll-over

I don't think GPS antennas have a rollover problem, ;-) so worst case is you
get an active GPS antenna for your $20.

But I agree, check out the JRC web page for information on the CCA-285
which I am told this model is. (and I don't have the JRC web page, so if
someone finds it, please post it.... I think JRC stands for Japan Radio
Company)

73

Jeff

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

59. [picsig] Re: $20 GPS module and antenna - email correction

From: "Zhahai Stewart" <zhahai@hisys.com>
Date: Mon, 16 Aug 1999 16:03:05 -0700
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-34691-1999.08.16-17.12.53--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

The $20 surplus "GPS receiver" has an outer PC board on which is mounted
(among other things) an inner PC board with the GPS receiver proper.

The outer PCB (4 1/2x6") is labeled as the Aisin D8132-2041, for which
there are some hardware pdf docs for the Aisin Seiki TE2041(D8100-2041).
The communications protocol off board is not documented in same.

The inner PCB (3 5/8x 1 3/4") is apparently labeled as CCA-285. It seems
that it uses the protocol described in a pdf document for the Aisin Seiki
D8120-2041. It is in a shielded box 7/16" tall; there may have been
an external top, not included. I've seen no hardware docs for the inner
PCB.

In addition to the inner PCB, the outer PCB contains power regulation
(7805), a processor, RS-232 level shifting (Max 202), a backup battery,
and connectors. Most likely, the main purpose of the outer PCB processor
is to convert the inner PCB receiver's protocol to another format for use

by a display and other electronics..

Both inner and outer protocols are binary, not NMEA.

The outer PCB protocol looks similar to Garmin/Garmin in layout, and
appears to be one way continuous, until and unless we have more
documentation. Time and GPS position data have been decoded from it;
follow the links on the vendor's web page. It uses a mixture of packed
BCD and binary data.

The inner PCB protocol is apparently well documented with the above PDF
file, has more information, and is two way polled (with set/acknowledge
or request/data packet pairs). This too uses some packed BCD along with
binary data.

The inner protocol allows one to set initial position, time, or height
(for 2D fixes). It can be queried for position, time, and info about the
satellites used in the fix.

There is a patch (involving trace cutting and patching with SMT
components, not for the novice) to connect the inner PCB's serial data
through the outer board's RS-232 level conversion and connector. Again,
see the links from the vendor's web site.

This package also includes an active GPS patch antenna which mates with a
connector on the outer PCB. The connector is non-standard, square, coax.

There are three basic ways to make use of this receiver.

1. Keep the outer board, and use the outer protocol via RS-232 on a
mini-DIN plug. This provides regulation from nominal 12V, battery
backup, RS-232, no initialization needed. Downsides: less info and
control than inner protocol.

2. Keep the outer board, make the patch to transfer the inner protocol
through RS-232 and the mini-DIN plug. This provides regulation, battery
backup, and RS-232 level shifting. Upside/downside: inner protocol has
more info and control, but takes more programming.

3. Remove the inner receiver board and use it alone (in its shielded
box). Provide regulated 5v, maybe battery backup (?), any serial
data level shifting you need (if going to a CMOS processor, none may be
needed or desired). Upside/downside: inner protocol has more info and
control, but takes more programming. Upside: smaller, probably less
power.

(Note that the GPS antenna connector is on a short coax from the inner
board, which can be easily unscrewed from where it mounts on the outer
board.)

> But I agree, check out the JRC web page for information on the CCA-285
> which I am told this model is. (and I don't have the JRC web page, so if
> someone finds it, please post it.... I think JRC stands for Japan Radio
> Company)

The "inner" PCB is labeled CCA-225 and has at least one chip from JRC
onboard. I suppose it's possiblt that it's made by JRC and renamed by
Aisin Seiki. The JRC web pages confirm that they do build GPS equipment,
but I could find no product info, much less tech info.

It would be good to have a bit more hardware documentation on this inner
board - like the pinouts of its connector, as well as its power needs for
operation and backup.

I have two of these, and would be glad to network with others making use
of them.

73 de Zhahai

@ Zhahai Stewart   zhahai@hisys.com
@ A Meme Gardener   http://rainbow.rmi.net/~hisys/zhahai.html
@ Standard Disclaimer YMMV - Your Maya May Vary

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

60. [picsig] Re: $20 GPS module and antenna - email correction

From: "James E. Gutshall" <gutshall@pcu.net>
Date: Mon, 16 Aug 1999 20:57:41 -0600
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-34810-1999.08.17-12.51.16--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

What is this "roll-over " that is of concern. What effects might it have?

-----Original Message-----
From: Jeff King <jeff@aerodata.net>
To: TAPR PIC Development Special Interest Group <picsig@lists.tapr.org>
Date: Monday, August 16, 1999 1:08 PM
Subject: [picsig] Re: $20 GPS module and antenna - email correction

>
>
>"Sadowski, Allan" wrote:
>
>> FYI Folks
>>
>> Trimble has quite a number of units that are NOT Y2K compliant and a
number
>> having GPS Roll-Over problems... beware B4 you buy... check the Web
>> site to see if these devices are going to have problems during the
roll-over
>
>I don't think GPS antennas have a rollover problem, ;-) so worst case is
you
>get an active GPS antenna for your $20.
>
>But I agree, check out the JRC web page for information on the CCA-285
>which I am told this model is. (and I don't have the JRC web page, so if
>someone finds it, please post it.... I think JRC stands for Japan Radio
>Company)
>
>73
>
>Jeff
>
>
>---
>You are currently subscribed to picsig as: gutshall@pcu.net
>To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

---
You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

61. [picsig] Re: $20 GPS module and antenna - email correction

From: Ian Wade <ian@dowrmain.demon.co.uk>
Date: Tue, 17 Aug 1999 19:50:27 +0100
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-34819-1999.08.17-14.06.06--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

In article <LYR6894-34639-1999.08.16-13.59.42--ian#dowrmain.demon.co.uk@
lists.tapr.org>, Sadowski, Allan <allan.sadowski@ncshp.org> writes

>If the price seems too good to be true... there's probably a reason...

I read in today's London Financial Times that the Japanese Trade
Ministry says "up to 95,000 car navigation units sold in Japan may be
unable to cope with the [GPS rollover] change." .....

Car navigation units? Is that what these $20 units are? Is that why they
are not NMEA-compliant?

Maybe it's worth waiting until after this weekend before placing your
order.

73
Ian, G3NRW
--
+--+
| G3NRW on APRS: [IO91SX] 144.800 MHz |

```
|  QTH:   Harlington, Beds, UK   (~55 km/35 miles NNW of London)  |
|  email: g3nrw@arrl.net                                          |
|                                                                 |
|    INTRODUCTION TO APRS: http://www.netro.co.uk/whitepaper.htm  |
+-----------------------------------------------------------------+

---
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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org
```

62. [picsig] Re: $20 GPS module and antenna - email correction

From: "Jim K." <jim@madpower.com>
Date: Tue, 17 Aug 1999 19:31:06 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-34862-1999.08.17-18.37.10--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

```
>What is this "roll-over " that is of concern. What effects  might it have?
>

This is not a Y2K issue, although same theory.  It will happen next week
(I'm not sure the exact date and time), GPS units built 5 years or more ago
will not function correctly.  They do not have enough memory for the
almanac. When the unit goes to look in the table to see where a sat should
be, it will get no or wrong data.

I would like to know what the units will display, and maybe we can "make"
some kind of converter box to correct this.  Time will only tell.  I have
unit that is 8 years old.  I'll keep you posted!


 Jim Krutzler  A.K.A.  "Jimbo K"

 Home Page: http://www.madpower.com

 mailto:jim@madpower.com
 mailto:kb2uoi@amsat.org

 Ham Radio call: KB2UOI
 Phone/Fax 732.248.4479

 Attitude is Everything!
_____________________________________________________________________________
_

-----Original Message-----
From: James E. Gutshall <gutshall@pcu.net>
To: TAPR PIC Development Special Interest Group <picsig@lists.tapr.org>
Date: Tuesday, August 17, 1999 1:42 PM
Subject: [picsig] Re: $20 GPS module and antenna - email correction


>What is this "roll-over " that is of concern. What effects  might it have?
>
>
>-----Original Message-----
>From: Jeff King <jeff@aerodata.net>
>To: TAPR PIC Development Special Interest Group <picsig@lists.tapr.org>
>Date: Monday, August 16, 1999 1:08 PM
>Subject: [picsig] Re: $20 GPS module and antenna - email correction
>
>
>>
>>
>>"Sadowski, Allan" wrote:
>>
>>> FYI Folks
>>>
>>> Trimble has quite a number of units that are NOT Y2K compliant and a
>number
>>> having GPS Roll-Over problems...   beware B4 you buy... check the Web
>>> site to see if these devices are going to have problems during the
>roll-over
>>
>>I don't think GPS antennas have a rollover problem,  ;-) so worst case is
>you
>>get an active GPS antenna for your $20.
>>
>>But I agree, check out the JRC web page for information on the CCA-285
```

>>which I am told this model is. (and I don't have the JRC web page, so if
>>someone finds it, please post it.... I think JRC stands for Japan Radio
>>Company)
>>
>>73
>>
>>Jeff
>>
>>
>>---
>>You are currently subscribed to picsig as: gutshall@pcu.net
>>To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org
>
>
>---
>You are currently subscribed to picsig as: kb2uoi@amsat.org
>To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org
>

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

63. [picsig] RE: GPS Week Roll-Over bug

From: "Boissonneault, Martin (A)" <ve2mrx@amsat.org>
Date: Tue, 17 Aug 1999 20:18:23 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-34865-1999.08.17-19.28.37--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi All!
        My corrections are written below...

[E_O_MSG]

mailto:ve2mrx@amsat.org
mailto:ve2mrx@rac.ca
mailto:ve2mrx@qsl.net

Martin VE2MRX
Beloeil, Quebec, Canada
FN35jn

-----Original Message-----
From: bounce-picsig-8639@lists.tapr.org
[mailto:bounce-picsig-8639@lists.tapr.org]On Behalf Of Jim K.
Sent: Tuesday, August 17, 1999 18:31
To: TAPR PIC Development Special Interest Group
Subject: [picsig] Re: $20 GPS module and antenna - email correction

>>What is this "roll-over " that is of concern. What effects might it
have?
>>

>This is not a Y2K issue, although same theory. It will happen next
week
>(I'm not sure the exact date and time), GPS units built 5 years or
more ago
>will not function correctly. They do not have enough memory for the
>almanac. When the unit goes to look in the table to see where a sat
should
>be, it will get no or wrong data.

        The GPS week number will roll from 1023 to 0. This means the
receivers might get confused about the current year... It has nothing
to do (at least directly) with the almanac and the memory. The
unprepared GPS Will think wrong for the year and may not lock to sats
at all however... There is NO fix, except new firmware... Sorry Jim,
no converter boxes...

>I would like to know what the units will display, and maybe we can
"make"
>some kind of converter box to correct this. Time will only tell. I
have
>unit that is 8 years old. I'll keep you posted!

        The Roll Over should be the 21st of August, at 0:00UTC (If not, it is
on the 22nd, not sure anymore...)

>Jim Krutzler A.K.A. "Jimbo K"

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

64. [picsig] RE: GPS Week Roll-Over bug

From: John Rauch <n4jhr@earthlink.net>
Date: Tue, 17 Aug 1999 20:34:47 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-34867-1999.08.17-19.39.14--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 08:18 PM 8/17/1999 -0400, you wrote:
>Hi All!
Snip

>   The Roll Over should be the 21st of August, at 0:00UTC (If not, it is
>on the 22nd, not sure anymore...)
>

Actually, the "rollover" will be at 0:00 UTC/GMT on the 22nd. This would be
7 pm on the 21st, this next Saturday evening EST. (don't forget to compute
Daylight savings time!)

John

>
> >Jim Krutzler A.K.A. "Jimbo K"
>
>
>
>---
>You are currently subscribed to picsig as: n4jhr@earthlink.net
>To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org
>
>
>
John Rauch, Control Operator for
Amateur Radio Station N4JHR
c/o 1450 West Lake Brantley Road
Longwood, Florida 32779-4766
(407)869-1450, (407)869-6658 Fax
n4jhr@eamil.com
Lat. N28 41.128, Lon. W081 26.155

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

65. [picsig] PIC17C756 PIC Microcontroller

From: "Jim K." <jim@madpower.com>
Date: Wed, 18 Aug 1999 21:24:32 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-35001-1999.08.18-20.30.46--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hello all,

    I placed an order for some more PIC chips from Digi-Key, only to find
that the one that I REALLY waned was out of stock: PIC17C756 (window ver.).
Does anyone know where else I can order them from?

Thanks,
    Jim

Jim Krutzler A.K.A. "Jimbo K"

Home Page: http://www.madpower.com

mailto:jim@madpower.com
mailto:kb2uoi@amsat.org

Ham Radio call: KB2UOI
Phone/Fax 732.248.4479

Attitude is Everything!

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

66. [picsig] TINI

From: Tim Salo <salo@networkcs.com>
Date: Mon, 23 Aug 1999 13:16:32 -0500 (CDT)
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-35762-1999.08.23-13.26.36--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I don't know if this has made it to the PIC mail list yet, but Dallas
Semiconductor [almost] has a new Java-based, SIMM-form-factor,
embedded computer out.

        http://www.ibutton.com/TINI/

This is perhaps an order of magnitude larger (e.g., in price) than the
PIC chip, but it seems to have a lot of potential.

-tjs

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

67. [picsig] Re: $20 GPS module and antenna - email correction

From: "James E. Gutshall" <gutshall@pcu.net>
Date: Wed, 25 Aug 1999 23:00:03 -0600
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-36391-1999.08.26-00.16.57--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Ok now the rollover date has passed, I would be interested in hearing about
any problems any one has experience, also those of you who purchased a unit
were you able to get it working? Were you able to interface it to the PIC?

-----Original Message-----
From: Jim K. <jim@madpower.com>
To: TAPR PIC Development Special Interest Group <picsig@lists.tapr.org>
Date: Tuesday, August 17, 1999 5:34 PM
Subject: [picsig] Re: $20 GPS module and antenna - email correction

>
>
>>What is this "roll-over " that is of concern. What effects might it have?
>>
>
>This is not a Y2K issue, although same theory. It will happen next week
>(I'm not sure the exact date and time), GPS units built 5 years or more ago
>will not function correctly. They do not have enough memory for the
>almanac. When the unit goes to look in the table to see where a sat should
>be, it will get no or wrong data.
>
>I would like to know what the units will display, and maybe we can "make"
>some kind of converter box to correct this. Time will only tell. I have
>unit that is 8 years old. I'll keep you posted!
>
>
> Jim Krutzler A.K.A. "Jimbo K"
>
> Home Page: http://www.madpower.com
>
> mailto:jim@madpower.com
> mailto:kb2uoi@amsat.org
>
> Ham Radio call: KB2UOI
> Phone/Fax 732.248.4479
>
> Attitude is Everything!

>_____
_
>_
>
>-----Original Message-----
>From: James E. Gutshall <gutshall@pcu.net>
>To: TAPR PIC Development Special Interest Group <picsig@lists.tapr.org>
>Date: Tuesday, August 17, 1999 1:42 PM
>Subject: [picsig] Re: $20 GPS module and antenna - email correction
>
>
>>What is this "roll-over " that is of concern. What effects might it have?
>>
>>
>>-----Original Message-----
>>From: Jeff King <jeff@aerodata.net>
>>To: TAPR PIC Development Special Interest Group <picsig@lists.tapr.org>
>>Date: Monday, August 16, 1999 1:08 PM
>>Subject: [picsig] Re: $20 GPS module and antenna - email correction
>>
>>
>>>
>>>
>>>"Sadowski, Allan" wrote:
>>>
>>>> FYI Folks
>>>>
>>>> Trimble has quite a number of units that are NOT Y2K compliant and a
>>number
>>>> having GPS Roll-Over problems...   beware B4 you buy... check the Web
>>>> site to see if these devices are going to have problems during the
>>roll-over
>>>
>>>I don't think GPS antennas have a rollover problem, ;-) so worst case is
>>you
>>>get an active GPS antenna for your $20.
>>>
>>>But I agree, check out the JRC web page for information on the CCA-285
>>>which I am told this model is. (and I don't have the JRC web page, so if
>>>someone finds it, please post it.... I think JRC stands for Japan Radio
>>>Company)
>>>
>>>73
>>>
>>>Jeff
>>>
>>>
>>>---
>>>You are currently subscribed to picsig as: gutshall@pcu.net
>>>To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org
>>
>>
>>---
>>You are currently subscribed to picsig as: kb2uoi@amsat.org
>>To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org
>>
>
>
>---
>You are currently subscribed to picsig as: gutshall@pcu.net
>To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org
>

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

68. [picsig] PIC-E and NMEA strings?

From: Ronald Graham <rongraham@magnet.com.au>
Date: Fri, 27 Aug 1999 07:09:31 +1000
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Cc: john@hansen.net
Message-ID: <LYR6890-36500-1999.08.26-16.16.47--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I have a PIC-E which works OK with a Garmin GPS.
I have just tried to use it with a Trimble Svee 6 GPS receiver module that
has been re-programmed to output the NMEA GPGGA and GPVTG strings .. and

note "no response" from the PIC-E.
When I look at the NMEA data outputted from the Garmin GPS, I note a great
number of NMEA strings. This is in contrast to the 2 strings from the Trimble RX

I suspect the PIC-E is programmed to look for a particular NMEA string
other than GPGGA or GPVTG.
Am I correct in this reasoning as to why I am having this problem with the
Trimble RX?

Ron, VK4BRG.

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

69. [picsig] RE: PIC-E and NMEA strings?

From: "Sadowski, Allan" <allan.sadowski@ncshp.org>
Date: Thu, 26 Aug 1999 17:20:19 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-36502-1999.08.26-16.29.49--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Ron

I have about 6 SV6's... not turned on in the past year.. but waiting to be
used again...

I take it no problem with the GPS rollover this weekend?

TNX in advance...

ALOHA
AH6LS

> -----Original Message-----
> From: Ronald Graham [SMTP:rongraham@magnet.com.au]
> Sent: Thursday, August 26, 1999 5:10 PM
> To: TAPR PIC Development Special Interest Group
> Cc: john@hansen.net
> Subject: [picsig] PIC-E and NMEA strings?
>
> I have a PIC-E which works OK with a Garmin GPS.
> I have just tried to use it with a Trimble Svee 6 GPS receiver module that
> has been re-programmed to output the NMEA GPGGA and GPVTG strings .. and
> note "no response" from the PIC-E.
> When I look at the NMEA data outputted from the Garmin GPS, I note a great
> number of NMEA strings. This is in contrast to the 2 strings from the
> Trimble RX
>
> I suspect the PIC-E is programmed to look for a particular NMEA string
> other than GPGGA or GPVTG.
> Am I correct in this reasoning as to why I am having this problem with the
> Trimble RX?
>
> Ron, VK4BRG.
>

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

70. [picsig] Re: PIC-E and NMEA strings?

From: "Warren A Merkel" <austin@magicnet.net>
Date: Thu, 26 Aug 1999 17:32:57 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Cc: picsig@lists.tapr.org
Message-ID: <LYR6890-36504-1999.08.26-16.43.03--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> I have a PIC-E which works OK with a Garmin GPS.
> I have just tried to use it with a Trimble Svee 6 GPS receiver module
> that has been re-programmed to output the NMEA GPGGA and GPVTG strings
> .. and note "no response" from the PIC-E. When I look at the NMEA data
> outputted from the Garmin GPS, I note a great number of NMEA strings.
> This is in contrast to the 2 strings from the Trimble RX
>
> I suspect the PIC-E is programmed to look for a particular NMEA
> string other than GPGGA or GPVTG. Am I correct in this reasoning as to

> why I am having this problem with the Trimble RX?
>
> Ron, VK4BRG.
>

Ron,
Most likely, you need to turn on the $GPRMC sentence in the
Trimble. You could change the code to look for any thing that you
want however both code samples for the PIC-E from the TAPR site
(Byon's PIC-E and John's GPS-E-2) both look for the $GPRMC
sentence.

Warren A. Merkel
kd4zdd@amsat.org
Orlando, FL

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

71. [picsig] Re: PIC-E and NMEA strings?

From: "Steven R. Bible" <srbible@gate.net>
Date: Thu, 26 Aug 1999 21:17:53 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-36550-1999.08.26-20.26.58--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 07:09 AM 8/27/99 +1000, you wrote:
>I have a PIC-E which works OK with a Garmin GPS.
>I have just tried to use it with a Trimble Svee 6 GPS receiver module that
>has been re-programmed to output the NMEA GPGGA and GPVTG strings .. and
>note "no response" from the PIC-E.
>When I look at the NMEA data outputted from the Garmin GPS, I note a great
>number of NMEA strings. This is in contrast to the 2 strings from the
Trimble RX
>
>I suspect the PIC-E is programmed to look for a particular NMEA string
>other than GPGGA or GPVTG.
>Am I correct in this reasoning as to why I am having this problem with the
>Trimble RX?

Ron, you didn't mention which PIC-E program you are running. But yes, the
RMC sentence is the one of choice for the MIC-E format. RMC has speed in
it where GGA does not (I hope my memory is correct).

Either turn on the RMC sentence or do some reprogramming. See why we made
the source available :-).

- Steve, N7HPR
  n7hpr@tapr.org
  n7hpr@amsat.org

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

72. [picsig] Re: $20 GPS module and antenna - email correction

From: "Lou" <lfaustini@atlantech.net>
Date: Fri, 27 Aug 1999 00:40:00 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-36617-1999.08.26-23.56.10--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

mike works like a champ. best deal i have --ever-- gotten in 15 years of
hamfesting.

  ---Lou
-----Original Message-----
From: James E. Gutshall <gutshall@pcu.net>
To: TAPR PIC Development Special Interest Group <picsig@lists.tapr.org>
Date: Thursday, August 26, 1999 1:07 AM
Subject: [picsig] Re: $20 GPS module and antenna - email correction

>Ok now the rollover date has passed, I would be interested in hearing about
>any problems any one has experience, also those of you who purchased a unit
>were you able to get it working? Were you able to interface it to the PIC?
>
>-----Original Message-----
>From: Jim K. <jim@madpower.com>
>To: TAPR PIC Development Special Interest Group <picsig@lists.tapr.org>
>Date: Tuesday, August 17, 1999 5:34 PM
>Subject: [picsig] Re: $20 GPS module and antenna - email correction
>
>
>>
>>
>>>What is this "roll-over " that is of concern. What effects might it
have?
>>>
>>
>>This is not a Y2K issue, although same theory. It will happen next week
>>(I'm not sure the exact date and time), GPS units built 5 years or more
ago
>>will not function correctly. They do not have enough memory for the
>>almanac. When the unit goes to look in the table to see where a sat should
>>be, it will get no or wrong data.
>>
>>I would like to know what the units will display, and maybe we can "make"
>>some kind of converter box to correct this. Time will only tell. I have
>>unit that is 8 years old. I'll keep you posted!
>>
>>
>> Jim Krutzler A.K.A. "Jimbo K"
>>
>> Home Page: http://www.madpower.com
>>
>> mailto:jim@madpower.com
>> mailto:kb2uoi@amsat.org
>>
>> Ham Radio call: KB2UOI
>> Phone/Fax 732.248.4479
>>
>> Attitude is Everything!
>>_____
_
>_
>>_
>>
>>-----Original Message-----
>>From: James E. Gutshall <gutshall@pcu.net>
>>To: TAPR PIC Development Special Interest Group <picsig@lists.tapr.org>
>>Date: Tuesday, August 17, 1999 1:42 PM
>>Subject: [picsig] Re: $20 GPS module and antenna - email correction
>>
>>
>>>What is this "roll-over " that is of concern. What effects might it
have?
>>>
>>>
>>>-----Original Message-----
>>>From: Jeff King <jeff@aerodata.net>
>>>To: TAPR PIC Development Special Interest Group <picsig@lists.tapr.org>
>>>Date: Monday, August 16, 1999 1:08 PM
>>>Subject: [picsig] Re: $20 GPS module and antenna - email correction
>>>
>>>
>>>>
>>>>
>>>>"Sadowski, Allan" wrote:
>>>>
>>>>> FYI Folks
>>>>>
>>>>> Trimble has quite a number of units that are NOT Y2K compliant and a
>>>number
>>>>> having GPS Roll-Over problems...   beware B4 you buy... check the Web
>>>>> site to see if these devices are going to have problems during the
>>>roll-over
>>>>
>>>>I don't think GPS antennas have a rollover problem, ;-) so worst case
is

>>>you
>>>>get an active GPS antenna for your $20.
>>>>
>>>>But I agree, check out the JRC web page for information on the CCA-285
>>>>which I am told this model is. (and I don't have the JRC web page, so if
>>>>someone finds it, please post it.... I think JRC stands for Japan Radio
>>>>Company)
>>>>
>>>>73
>>>>
>>>>Jeff
>>>>
>>>>
>>>>---
>>>>You are currently subscribed to picsig as: gutshall@pcu.net
>>>>To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org
>>>
>>>
>>>---
>>>You are currently subscribed to picsig as: kb2uoi@amsat.org
>>>To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org
>>>
>>
>>
>>---
>>You are currently subscribed to picsig as: gutshall@pcu.net
>>To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org
>>
>
>
>---
>You are currently subscribed to picsig as: lfaustini@atlantech.net
>To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org
>

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

73. [picsig] Re: PIC-E and NMEA strings?

From: Doug Bade <doug@clecom.com>
Date: Fri, 27 Aug 1999 11:32:58 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-36667-1999.08.27-10.41.02--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 07:09 AM 8/27/99 +1000, you wrote:
>I have a PIC-E which works OK with a Garmin GPS.
>I have just tried to use it with a Trimble Svee 6 GPS receiver module that
>has been re-programmed to output the NMEA GPGGA and GPVTG strings .. and
>note "no response" from the PIC-E.
>When I look at the NMEA data outputted from the Garmin GPS, I note a great
>number of NMEA strings. This is in contrast to the 2 strings from the
>Trimble RX
>
>I suspect the PIC-E is programmed to look for a particular NMEA string
>other than GPGGA or GPVTG.
>Am I correct in this reasoning as to why I am having this problem with the
>Trimble RX?
>
>Ron, VK4BRG.
>
>
>---
>You are currently subscribed to picsig as: doug@clecom.com
>To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

The answer is if you are using the same sveesix I am , bought for 20.00,
they do not output rmc as required by pic-e. N8XOS Greg re-wrote the c code
for the W2FS version to pull position from the GGA sentence. he is still
working on course, speed. We used 6 of them for our MS150 event OVER the
W1K rollover weekend. They worked great. According to Trimbles doc's even
if they do RMC (which requires software mod and about $2000.00 US, it is
not a flash issue) , the RMC date info will be messed up anynow. The GGA
sentence doesn't parse date. N8XOS and/or I will post our copy of the
source and a compiled exe as soon as we clear it and a few bugs we created
with John Hansen W2FS... 73.. Doug KB8GVQ

Doug Bade
doug@clecom.com

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

74. [picsig] RE: PIC-E and NMEA strings?

From: Ronald Graham <rongraham@magnet.com.au>
Date: Sun, 29 Aug 1999 08:14:15 +1000
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-36858-1999.08.28-17.21.17--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

No problem .. I was using after that rollover time.

Regards, Ron.

>
>I have about 6 SV6's... not turned on in the past year.. but waiting to be
>used again...
>
>I take it no problem with the GPS rollover this weekend?
>
>TNX in advance...
>
>ALOHA
>AH6LS
>
>> -----Original Message-----
>> From: Ronald Graham [SMTP:rongraham@magnet.com.au]
>> Sent: Thursday, August 26, 1999 5:10 PM
>> To: TAPR PIC Development Special Interest Group
>> Cc: john@hansen.net
>> Subject: [picsig] PIC-E and NMEA strings?
>>
>> I have a PIC-E which works OK with a Garmin GPS.
>> I have just tried to use it with a Trimble Svee 6 GPS receiver module that
>> has been re-programmed to output the NMEA GPGGA and GPVTG strings .. and
>> note "no response" from the PIC-E.
>> When I look at the NMEA data outputted from the Garmin GPS, I note a great
>> number of NMEA strings. This is in contrast to the 2 strings from the
>> Trimble RX
>>
>> I suspect the PIC-E is programmed to look for a particular NMEA string
>> other than GPGGA or GPVTG.
>> Am I correct in this reasoning as to why I am having this problem with the
>> Trimble RX?
>>
>> Ron, VK4BRG.
>>
>
>---
>You are currently subscribed to picsig as: rongraham@magnet.com.au
>To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org
>
>
>

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

75. [picsig] PIC-E Tracker Enhancements

From: Eric Cook <kc7ryp@yahoo.com>
Date: Sat, 28 Aug 1999 20:46:34 -0700 (PDT)
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-36895-1999.08.28-22.58.50--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Fellow Pic-Er's,

I've been kicking a couple of ideas to enhance PIC-E functionality.
The reality is that between my two-year old and four-month old sons,
my "dink" time for APRS is severely limited. I'd love to implement
these, but just won't have the time (for the next ten years, at

least.) My hope is that someone in this SIG will take these ideas
and turn them into cool additions for the PIC-E.

1) Proximity Thresholds - The idea is not to send positions, unless
there is actual movement (beyond an SA jitter threshold.) This way,
a parked car could keep itself on the map by beconing once an hour,
instead of sending needless position packets every minute. Here's
how I see it working.

Thresholds for longitude and latitude differences would be hard-coded
or stored in EEROM. Latitude and longitude values would be stored in
RAM after sending a position beacon. The next time a position is
eligible to be sent, the current latitude and longitude values are
compared to the previous values. If both differences exceed the
corresponding thresholds, the position is transmitted.

2) On Air Configuration - Using Byon's (N6BG) receive code, and
storing configurable values (like MYCall, UNPROTO, BTEXT, etc.) in
EEROM a whole new level of configurability could be built into a
PIC-E.

The mode switch becomes a run/configure switch. The Option switch is
defeated by jumpering J5 to allow receiving data to the PIC. In
'run' mode, configuration commands are ignored by the PIC-E (the
receive code may not even be activated.) In 'configure' mode, short,
simple commands are sent via UI frames to the PIC-E, perhaps on a
special SSID.

Please let me know what you think. I'd be honored to help test any
of these (or any other) PIC-E enhancements.

73,

Eric, KC7RYP

_____
Do You Yahoo!?
Bid and sell for free at http://auctions.yahoo.com

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

76. [picsig] Re: PIC-E Tracker Enhancements

From: "D. F. Welch" <amersci@flash.net>
Date: Sat, 28 Aug 1999 20:58:50 -0700
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-36897-1999.08.28-23.12.26--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 08:46 PM 8/28/99 -0700, you wrote:
>Fellow Pic-Er's,
>
>I've been kicking a couple of ideas to enhance PIC-E functionality.
>The reality is that between my two-year old and four-month old sons,
>my "dink" time for APRS is severely limited. I'd love to implement
>these, but just won't have the time (for the next ten years, at
>least.) My hope is that someone in this SIG will take these ideas
>and turn them into cool additions for the PIC-E.
>
>1) Proximity Thresholds - The idea is not to send positions, unless
>there is actual movement (beyond an SA jitter threshold.) This way,
>a parked car could keep itself on the map by beconing once an hour,
>instead of sending needless position packets every minute. Here's
>how I see it working.

Actually, all that is needed is two report times and
sense a switched accessory line in the car. Thus if the
ignition is on report at the high rate and if the ignition switch is off
report at the once per hour rate.

Dan - W6DFW
dan@byonics.com

>
>Thresholds for longitude and latitude differences would be hard-coded
>or stored in EEROM. Latitude and longitude values would be stored in

>RAM after sending a position beacon. The next time a position is
>eligible to be sent, the current latitude and longitude values are
>compared to the previous values. If both differences exceed the
>corresponding thresholds, the position is transmitted.
>
>2) On Air Configuration - Using Byon's (N6BG) receive code, and
>storing configurable values (like MYCall, UNPROTO, BTEXT, etc.) in
>EEROM a whole new level of configurability could be built into a
>PIC-E.
>
>The mode switch becomes a run/configure switch. The Option switch is
>defeated by jumpering J5 to allow receiving data to the PIC. In
>'run' mode, configuration commands are ignored by the PIC-E (the
>receive code may not even be activated.) In 'configure' mode, short,
>simple commands are sent via UI frames to the PIC-E, perhaps on a
>special SSID.
>
>Please let me know what you think. I'd be honored to help test any
>of these (or any other) PIC-E enhancements.
>
>73,
>
>Eric, KC7RYP
>
>
>_____
>Do You Yahoo!?
>Bid and sell for free at http://auctions.yahoo.com
>
>
>---
>You are currently subscribed to picsig as: amersci@flash.net
>To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org
>
>
>

Daniel F. Welch

Director
Research and Development
American Scientific Associates
Email: amersci@flash.net

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77. [picsig] Re: PIC-E Tracker Enhancements

From: John Hansen <hansen@fredonia.edu>
Date: Sun, 29 Aug 1999 09:15:13 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-36980-1999.08.29-08.27.33--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 08:46 PM 8/28/99 -0700, you wrote:

>1) Proximity Thresholds - The idea is not to send positions, unless
>there is actual movement (beyond an SA jitter threshold.) This way,
>a parked car could keep itself on the map by beconing once an hour,
>instead of sending needless position packets every minute. Here's
>how I see it working.

This is already implemented in GPS-2-E. Use the "slow" parameter. If slow
is set to 5, for example, when the speed is less than 10 mph, it will
transmit 1/5 as often as you've set it to do at full speed.

John, W2FS

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78. [picsig] Re: PIC-E Tracker Enhancements

From: "Richard C. Bandla" <rbandla@voicelogix.ca>
Date: Sun, 29 Aug 1999 09:44:19 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>

Message-ID: <LYR6890-36985-1999.08.29-08.54.32--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I too feel that there needs to be an "underway", "slow" and "parked"
granularity, or optionally, just "underway" and "stopped". The 1:5 ratio is
obviously better than full rate but maybe a sliding scale that says the
longer I stay here, the less frequent the tranmission until I reach 1:50
wud suit folks. There is already a lot going on the APRS channel and I
think this wud be a very positive step in controlling some of it. The
granularity may not be appropriate for walkers or rescue workers who need
to be seen more often.

I'm not sure how much code this wud take.

Any more support for this idea?

Regards.
Rick

At 09:15 AM 1999-08-29 -0400, you wrote:
>At 08:46 PM 8/28/99 -0700, you wrote:
>
>>1) Proximity Thresholds - The idea is not to send positions, unless
>>there is actual movement (beyond an SA jitter threshold.) This way,
>>a parked car could keep itself on the map by beconing once an hour,
>>instead of sending needless position packets every minute. Here's
>>how I see it working.
>
>This is already implemented in GPS-2-E. Use the "slow" parameter. If slow
>is set to 5, for example, when the speed is less than 10 mph, it will
>transmit 1/5 as often as you've set it to do at full speed.
>
>John, W2FS
>
>
>---
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>To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org
>
>
>
1355 Minogue Cres., Cumberland, ON, Canada K4C1B4
phone 613 833-2787 (home)   fax 613 833 3032
phone 613 833-1950 (work)

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

79. [picsig] Re: PIC-E and NMEA strings?

From: Ronald Graham <rongraham@magnet.com.au>
Date: Mon, 30 Aug 1999 09:45:53 +1000
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-37105-1999.08.29-18.56.39--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Many thanks to all that replied re my question.
I now know its the ..RMC string that the PIC-E uses.

Regards, Ron.

>>I have a PIC-E which works OK with a Garmin GPS.
>>I have just tried to use it with a Trimble Svee 6 GPS receiver module that
>>has been re-programmed to output the NMEA GPGGA and GPVTG strings .. and
>>note "no response" from the PIC-E.
>>When I look at the NMEA data outputted from the Garmin GPS, I note a great
>>number of NMEA strings. This is in contrast to the 2 strings from the
>Trimble RX
>>
>>I suspect the PIC-E is programmed to look for a particular NMEA string
>>other than GPGGA or GPVTG.
>>Am I correct in this reasoning as to why I am having this problem with the
>>Trimble RX?
>
>
>Ron, you didn't mention which PIC-E program you are running. But yes, the
>RMC sentence is the one of choice for the MIC-E format. RMC has speed in

>it where GGA does not (I hope my memory is correct).
>
>Either turn on the RMC sentence or do some reprogramming. See why we made
>the source available :-).
>
>
>- Steve, N7HPR
> n7hpr@tapr.org
> n7hpr@amsat.org
>
>
>---
>You are currently subscribed to picsig as: rongraham@magnet.com.au
>To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org
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>
>

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80. [picsig] Re: $20 GPS module and antenna

From: "Sims, Mike" <msims@invensysappliance.com>
Date: Mon, 30 Aug 1999 12:25:24 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-37233-1999.08.30-11.38.36--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Has anyone done anything with this unit yet? I was about to start a project
to convert the data being excreted by this unit into a NMEA string and to
also display the Lat/Long data to an LCD display.

73,

Mike
KA9KIM

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

81. [picsig] Re: $20 GPS module and antenna

From: James Jefferson <jjeffers@deskmedia.com>
Date: Mon, 30 Aug 1999 11:35:03 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-37234-1999.08.30-11.42.00--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>Has anyone done anything with this unit yet? I was about to start a project
>to convert the data being excreted by this unit into a NMEA string and to
>also display the Lat/Long data to an LCD display.

Well, the group order that I'm handling hasn't even gotten to me yet! So we
haven't started yet. If they take this long to get it out then I might just
end up hand delivering them at DCC! =(

-James Jefferson KB0THN
jjeffers@deskmedia.com
http://www.deskmedia.com/~jjeffers/

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82. [picsig] Re: $20 GPS module and antenna

From: "Rockfield, Terry A" <Terry_Rockfield@dscc.dla.mil>
Date: Mon, 30 Aug 1999 12:51:35 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-37240-1999.08.30-12.01.56--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

James
        passing along for what its worth. Then IC with the label on it IC302
           285u R85.87K, appears to be under the label a AT27C4096
  EPROM 4M see attached documentation. <<doc0311.pdf>>

Terry http://www.qsl.net/kc8kof/

> -----Original Message-----
> From: James Jefferson [SMTP:jjeffers@deskmedia.com]
> Sent: Monday, August 30, 1999 12:35 PM
> To: TAPR PIC Development Special Interest Group
> Subject: [picsig] Re: $20 GPS module and antenna
>
> >Has anyone done anything with this unit yet? I was about to start a
> project
> >to convert the data being excreted by this unit into a NMEA string and to
> >also display the Lat/Long data to an LCD display.
>
> Well, the group order that I'm handling hasn't even gotten to me yet! So
> we
> haven't started yet. If they take this long to get it out then I might
> just
> end up hand delivering them at DCC! =(
>
>
> -James Jefferson KB0THN
> jjeffers@deskmedia.com
> http://www.deskmedia.com/~jjeffers/
>
> ---
> You are currently subscribed to picsig as: Terry_rockfield@dscc.dla.mil
> To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org
[Attachment: doc0311.pdf; application/octet-stream; 229,421 bytes]

83. [picsig] Re: $20 GPS module and antenna

From: "Rockfield, Terry A" <Terry_Rockfield@dscc.dla.mil>
Date: Mon, 30 Aug 1999 12:55:24 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-37243-1999.08.30-12.08.49--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

The IC under the label IC302 , 285U r85.87K is a AT27C4096 EPROM see
attached file <<doc0311.pdf>> Terry

> -----Original Message-----
> From: Sims, Mike [SMTP:msims@invensysappliance.com]
> Sent: Monday, August 30, 1999 12:25 PM
> To: TAPR PIC Development Special Interest Group
> Subject: [picsig] Re: $20 GPS module and antenna
>
> Has anyone done anything with this unit yet? I was about to start a
> project
> to convert the data being excreted by this unit into a NMEA string and to
> also display the Lat/Long data to an LCD display.
>
> 73,
>
> Mike
> KA9KIM
>
> ---
> You are currently subscribed to picsig as: Terry_rockfield@dscc.dla.mil
> To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org
[Attachment: doc0311.pdf; application/octet-stream; 229,421 bytes]

84. [picsig] If you were having a problem with GPS-E-2 ...

From: John Hansen <john@hansen.net>
Date: Mon, 30 Aug 1999 20:44:56 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-37298-1999.08.30-19.57.56--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

A few weeks ago someone on this group was having a problem with the GPS-2-E
firmware sometimes giving bad position reports. This was an intermittent
problem, that I've seen myself once in a long while, but I can't replicate
it at will. However, I'm now pretty sure I know what caused it and why it
seems to happen more with some types of GPS units and not at all with others.

I believe I have it fixed. However, since I can't cause the problem to
occur, I can't determine with certainty that it is fixed. So, I'm
wondering if the person that was experiencing this problem could please
contact me (john@hansen.net) and I'll send you a new version to try out.

Also, I've discovered a typo in my code that caused position errors when
the user was within 9 degrees longitude of the prime meridian. I've fixed
that as well and as soon as I can determine that the other problem is fixed
with certainty, I'll post a new version of the code to the ftp site.

John, W2FS

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September 1999

Original source file: picsig.9909
Source: http://ftp.tapr.org/tapr_history/SIG_Archives/picsig/mail_archive/picsig.9909

1. [picsig] Interfacing with the AISIN GPS from Electro-Mavin

From: "George S. Pappayliou" <aa8ma@worldnet.att.net>
Date: Sat, 4 Sep 1999 20:59:26
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-38071-1999.09.04-21.09.50--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I just bought a cheap ($20) gps from Electro-Mavin. It works ok but
ouputs the data in somesort of hex format that is not NMEA

   Has anyone written anything for the PIC-E that would allow it to
recognize data from this GPS for the purpose of generating APRS packets?

Thanks, George W3GP

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

2. [picsig] Re: Interfacing with the AISIN GPS from Electro-Mavin

From: hshk@ix.netcom.com (HSHK)
Date: Tue, 07 Sep 1999 11:40:49 GMT
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-38390-1999.09.07-06.50.13--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I have some 8051 code to convert the data into two
NMEA strings if you're interested, but using the data
directly would probably be easier.

Bill

73 OM ES GL SK DE KA8VIT (di-dit)

On Sat, 4 Sep 1999 20:59:26, you wrote:

>   I just bought a cheap ($20) gps from Electro-Mavin. It works ok but
>ouputs the data in somesort of hex format that is not NMEA
>
>   Has anyone written anything for the PIC-E that would allow it to
>recognize data from this GPS for the purpose of generating APRS packets?
>
>Thanks, George W3GP
>
>---
>You are currently subscribed to picsig as: hshk@ix.netcom.com
>To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

---
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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

3. [picsig] For what it's worth...

From: "Mike Berg" <mikeberg@midstate.tds.net>
Date: Tue, 7 Sep 1999 19:16:30 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-38498-1999.09.07-19.27.05--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I've been working on another PIC-E project here - this time it's a PIC-E
based
digipeater. The idea is to get the PIC-E to receive only compressed MIC-E
format packets from the input of a repeater and digi them out on the APRS
frequency. This would allow us to use a PIC-E instead of a TNC in making
APRS friendly repeaters.
Presently, I've got a very beta version running on a PIC protoboard at 4 Mhz
and hope to get the code edited and tested on the PIC-E shortly. It has two
modes of operation, compressed data filter in or out. With it out, the unit
digipeats the first 46 bytes of every valid packet received. When the
filter

is enabled it only re-transmits valid compressed position packets that
contain
a valid GPS fix.
Along the way, one of the things I noticed while testing the tx portion was
both
my MFJ and PK-96 TNCs seemed to only reliably see it's packets if I used
2 stop flags vs. 1.   I'll quickly point out that since this is my own code
and not the much more tested transmit code posted on the website, it could
be a self inflicted bug. However, l've not been able to find anything in
the
program to cause this - yet.
Like I said before, for what it's worth.
73 Mike Berg N0QBH

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4. [picsig] Re: For what it's worth...

From: "Richard C. Bandla" <rbandla@voicelogix.ca>
Date: Tue, 07 Sep 1999 21:14:09 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-38507-1999.09.07-20.24.51--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Mike - I think your PIC-E digi to make repeaters APRS friendly is a great
idea. I wonder if it would be possible to somehow indicate on an APRS map,
what rptr the packet came in from. This wud allow local APRS mobiles to be
easily located by which voice repeater they are on.

Would this be possible by having the PIC-DIGI insert the voice repeater's
call in the first position of the path (like other digis)? In the APRS map
software, maybe there could be a list to trap for specific digis, and when
the originating digi is on the list, the APRS stations call would be
displayed in a special color. This approach would accomodate several local
repeaters.

Anyway, just an idea - not sure if its possible and probable.

Regards.
Rick (VE3CVG)

At 07:16 PM 1999-09-07 -0500, you wrote:
>I've been working on another PIC-E project here - this time it's a PIC-E
>based
>digipeater. The idea is to get the PIC-E to receive only compressed MIC-E
>format packets from the input of a repeater and digi them out on the APRS
>frequency. This would allow us to use a PIC-E instead of a TNC in making
>APRS friendly repeaters.
>Presently, I've got a very beta version running on a PIC protoboard at 4 Mhz
>and hope to get the code edited and tested on the PIC-E shortly. It has two
>modes of operation, compressed data filter in or out. With it out, the unit
>digipeats the first 46 bytes of every valid packet received. When the
>filter
>is enabled it only re-transmits valid compressed position packets that
>contain
>a valid GPS fix.
>Along the way, one of the things I noticed while testing the tx portion was
>both
>my MFJ and PK-96 TNCs seemed to only reliably see it's packets if I used
>2 stop flags vs. 1.   I'll quickly point out that since this is my own code
>and not the much more tested transmit code posted on the website, it could
>be a self inflicted bug. However, l've not been able to find anything in
>the
>program to cause this - yet.
>Like I said before, for what it's worth.
>73 Mike Berg N0QBH
>
>
>---
>You are currently subscribed to picsig as: ve3cvg@rac.ca
>To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org
>
>
>
1355 Minogue Cres., Cumberland, ON, Canada K4C1B4
phone 613 833-2787 (home)   fax 613 833 3032
phone 613 833-1950 (work)

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

5. [picsig] Re: [aprssig] AO16/LO19 Traknet Operational!

From: "Brian B. Riley" <brianbr@macconnect.com>
Date: Tue, 7 Sep 1999 21:44:18 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Cc: "TAPR APRS Special Interest Group" <aprssig@tapr.org>,
"TAPR PIC SIG" <picsig@lists.tapr.org>
Message-ID: <LYR6890-38516-1999.09.07-20.56.46--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On 9/6/99 9:16 PM, Bob Bruninga (bruninga@nadn.navy.mil) passed this
wisdom:

>MOBILES: Any mobile with a 2m FM radio and Manchester TNC* can
>uplink his GPS position/Status and/or Messages from anywhere.

OK ... now ... can/how do we modify a MIC-E/PIC-E/MIC-Lite any of the
PICs feeding a Max612 to handle Manchester encoding????

Brian B. Riley --> http://members.macconnect.com/~brianbr
For PGP Keys <mailto:brianbr@wulfden.org?subject=Get%20PGP%20Key>

"You will know fear. Then you will know pain. Then you will use a Mac."
-- from somewhere on the Net

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

6. [picsig] Re: [aprssig] AO16/LO19 Traknet Operational!

From: Bob Bruninga <bruninga@nadn.navy.mil>
Date: Tue, 7 Sep 1999 21:51:14 -0400 (EDT)
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Cc: TAPR APRS Special Interest Group <aprssig@tapr.org>,
TAPR PIC SIG <picsig@lists.tapr.org>
Message-ID: <LYR6890-38517-1999.09.07-21.02.57--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Tue, 7 Sep 1999, Brian B. Riley wrote:

> >MOBILES: Any mobile with a 2m FM radio and Manchester TNC* can
> >uplink his GPS position/Status and/or Messages from anywhere.
>
> OK ... now ... can/how do we modify a MIC-E/PIC-E/MIC-Lite any of the
> PICs feeding a Max612 to handle Manchester encoding????

For the Pic-E it should be the same as for the WB4APR $3 TAPR-2 TNC mod,
since it uses a separte modem chip. Just take the TXD and XOR it with the
1200 HZ clock. BUT there will be the problem! THe timing (I think) is
internal to the PIC. But, Steve Bible should be able to simply do the XOR
in internal PIC software and there you go!

de WB4APR, Bob

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

7. [picsig] Re: AO16/LO19 Traknet Operational!

From: "Byon Garrabrant" <byon@mail.com>
Date: Tue, 7 Sep 1999 20:39:11 -0700
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-38534-1999.09.07-22.51.13--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On 7 Sep 99, at 21:51, Bob Bruninga wrote:

> On Tue, 7 Sep 1999, Brian B. Riley wrote:
>
> > >MOBILES: Any mobile with a 2m FM radio and Manchester TNC* can
> > >uplink his GPS position/Status and/or Messages from anywhere.
> >
> > OK ... now ... can/how do we modify a MIC-E/PIC-E/MIC-Lite any of the
> > PICs feeding a Max612 to handle Manchester encoding????
>
> For the Pic-E it should be the same as for the WB4APR $3 TAPR-2 TNC mod,
> since it uses a separte modem chip. Just take the TXD and XOR it with the
> 1200 HZ clock. BUT there will be the problem! THe timing (I think) is
> internal to the PIC. But, Steve Bible should be able to simply do the XOR
> in internal PIC software and there you go!
>
> de WB4APR, Bob
>

The timing is internal to the PIC. I'm not really familiar with the
Manchester protocol, but it appears that 1 bit is represented by a
416us high followed by a 416us low, and the other bit is 416us low,
followed by 416 high. If this is the case, the best way to
accomplish it with the PIC-E would be to bypass the modem
completely, and change the code to output the Manchester format
from a PIC pin direct to the radio, possibily through the filter, as the
$3 mod does. The code change should be fairly easy.

BTW, a pre-release version of the PIC-E used a resistor ladder to
generate the waveform. This hardware would have allowed to use
the Manchester format without hardware modification, as well as
9600 baud format. However, the code was more complicated, the
audio was not as clean, and we could not decode or detect carrier.

Byon

_____
 Byon Garrabrant   N6BG   byon@mail.com

You are currently subscribed to picsig as: lyris.picsig@tapr.org
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8. [picsig] Re: For what it's worth...

From: John Hansen <hansen@fredonia.edu>
Date: Wed, 08 Sep 1999 00:33:05 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-38544-1999.09.07-23.46.03--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 07:16 PM 9/7/99 -0500, you wrote:
>Along the way, one of the things I noticed while testing the tx portion was
>both
>my MFJ and PK-96 TNCs seemed to only reliably see it's packets if I used
>2 stop flags vs. 1.

I found the same thing with the Kantronics KPC-3, though in my case the MFJ
did not do this. It drove me nuts for weeks until I discovered that this
was the problem. The AX.25 spec says only 1 is needed, but I found that it
was a good idea to stick in at least 2.

John W2FS

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9. [picsig] Re: For what it's worth...

From: Tim Salo <salo@networkcs.com>
Date: Wed, 8 Sep 1999 08:22:08 -0500 (CDT)
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-38586-1999.09.08-08.33.02--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> Date: Wed, 08 Sep 1999 00:33:05 -0400
> From: John Hansen <hansen@fredonia.edu>
> Subject: [picsig] Re: For what it's worth...

>
> At 07:16 PM 9/7/99 -0500, you wrote:
> >Along the way, one of the things I noticed while testing the tx portion was
> >both
> >my MFJ and PK-96 TNCs seemed to only reliably see it's packets if I used
> >2 stop flags vs. 1.
>
> I found the same thing with the Kantronics KPC-3, though in my case the MFJ
> did not do this. It drove me nuts for weeks until I discovered that this
> was the problem. The AX.25 spec says only 1 is needed, but I found that it
> was a good idea to stick in at least 2.

Are two (or more) start flags required, or two or more end flags required,
or does it vary? (I can sort of understand some devices not always getting
byte sync on the first flag, but I don't see why devices should have
problems on a closing flag. But, I just a software guy...)

-tjs

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10. [picsig] Re: PIC-E Tracker Enhancements

From: "Zhahai Stewart" <zhahai@hisys.com>
Date: Fri, 10 Sep 1999 11:30:19 -0700
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-38905-1999.09.10-12.41.47--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> 1) Proximity Thresholds - The idea is not to send positions, unless
> there is actual movement (beyond an SA jitter threshold.) This way, a
> parked car could keep itself on the map by beconing once an hour,
> instead of sending needless position packets every minute. Here's how I
> see it working.
>
> Thresholds for longitude and latitude differences would be hard-coded or
> stored in EEROM.

Replies have indicated that there are other approaches to this issue.
Implemented is a "slower reporting by variable ratio when speed < 10mph"
option. Suggested was using an auxilliary power wire from the ignition
side to detect "engine on" and report more frequently.

I want to support that the above suggested "delta Lat/Lon" approach has
some advantages, particularly for slow vehicles or walkers. How do we
detect the difference between SA wandering, and a walker, given similar
"speeds"? A speed threshold which includes walkers will tend to also
get triggered by SA, and vice versa.

But the walker tends to walk in consistent directions for longer
distances (accumulating an increasing delta lat/lon) while the SA wanders
within a pseudo-gaussian distance from the "true" position (staying
within a delta lat/lon threshold). A walker moves outside the SA
envelope every couple of minutes or less (unless they too are doing a
drunken stagger <grin>). The faster they walk, the more often they would
report - proportional, not two level. Likewise bikes and slow parade
vehicles, etc. Or even fast vehicles - 60mph would give more frequent
reports than 30 mph. This becomes not unlike the delta-distance track
recording mode on some consumer GPS units (except perhaps simplified, not
calcululating true arc distance).

A "minimum" and "maximum" reporting period might be needed, so that
parked vehicles do report occassionally even without delta lat/lon
triggers, and so that fast vehicles don't report too often.

The problem I see is in the extra math to convert degrees and minutes and
fractional minutes into some kind of binary numbers which can be
subtracted to get deltas, and the deltas compared to a threshold. Or to
do decimal/sesqudecimal math on the raw text lat/lon without converting
to binary. Speed, code side, and RAM size could be issues. I don't know
how hard this would be on a PIC.

Zhahai

@ Zhahai Stewart   zhahai@hisys.com
@ A Meme Gardener   http://rainbow.rmi.net/~hisys/zhahai.html
@ Standard Disclaimer YMMV - Your Maya May Vary

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11. [picsig] DCD on PIC-E

From: "Sissom, Jay D" <jsissom@indiana.edu>
Date: Fri, 10 Sep 1999 16:28:29 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-38943-1999.09.10-16.39.27--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Does the GPS-E-2c program work with the MFJ Data radio? I just purchased one and it gives unsquelched audio to the TNC. My older TNC requires squelched audio so I ordered the TAPR DCD kit for it. Will this radio work with the PIC-E and the GPS-E-2c program without an external DCD kit?

Sorry if this has been asked before and I missed it.

Thanks & 73
Jay
KA9OKT

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12. [picsig] Re: DCD on PIC-E

From: "Steven R. Bible" <srbible@gate.net>
Date: Fri, 10 Sep 1999 19:11:00 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-38955-1999.09.10-18.20.22--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 04:28 PM 9/10/99 -0500, you wrote:
>Does the GPS-E-2c program work with the MFJ Data radio? I just purchased
>one and it gives unsquelched audio to the TNC. My older TNC requires
>squelched audio so I ordered the TAPR DCD kit for it. Will this radio work
>with the PIC-E and the GPS-E-2c program without an external DCD kit?

Jay,

The modem chip onboard the PIC-E is the MX-COM MX-614. The data sheet is available from the TAPR ftp site

ftp://ftp.tapr.org/picsig/docs/mx614/

The DCD we inplemented on the PIC-E (hardware wise) is what the MX-614 calls energy detect. So, that means it needs squelched audio. But that does not preclude one from programming a software DCD. I know that Byon's code and John's code use the energy detect feature of the MX-614.

Hope this helps.

- Steve, N7HPR
n7hpr@tapr.org
n7hpr@amsat.org

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13. [picsig] Re: PIC-E Tracker Enhancements

From: "Steven R. Bible" <srbible@gate.net>
Date: Fri, 10 Sep 1999 19:17:58 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-38958-1999.09.10-18.27.17--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

One idea that I read about on the PICLIST is to use a software hysterisis. You remember the previous reading, and if the new reading is within X of the previous reading you just continue to use the previous reading. If the new reading is farther than one from the previous reading, then you use the new reading and remember that as the new previous reading. Essentially it mimics a slightly "sticky" mechanical gauge.

Consider also that SA is suppose to only travel at a certain rate. If
within that rate of change you can fix your position to a area circle.

The PIC can do the math. In the case of the PIC16F84, the only limitation
is the amount of RAM and ROM you have. There are other PICs with more
memory that are pin-for-pin like the F84. One such PIC is the PIC16C622.
It is not flash, thus you will need an external programmer to program it.

- Steve, N7HPR
  n7hpr@tapr.org
  n7hpr@amsat.org

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14. [picsig] Re: PIC-E Tracker Enhancements

From: Jeff King <jeff@aerodata.net>
Date: Fri, 10 Sep 1999 19:30:53 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-38960-1999.09.10-18.41.22--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

"Steven R. Bible" wrote:

> The PIC can do the math. In the case of the PIC16F84, the only limitation
> is the amount of RAM and ROM you have. There are other PICs with more
> memory that are pin-for-pin like the F84. One such PIC is the PIC16C622.
> It is not flash, thus you will need an external programmer to program it.

The 16C622 is also a ICP (in circuit programable) part so I'd think the PIC-E
could also program it (but I admit I haven't tried). Of course, its not flash so

you'll need to pull it out and stick it under the UV eraser when you want to
change
it. All the ICP parts use RB6 and RB7 along with a higher voltage on Mpp to
program the part.

Another part to look at, similar to the 16C622 is the 16C625 which also has
E2 on it.

-Jeff

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15. [picsig] Re: DCD on PIC-E

From: John Hansen <hansen@fredonia.edu>
Date: Fri, 10 Sep 1999 22:39:55 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-38974-1999.09.10-21.50.08--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 04:28 PM 9/10/99 -0500, you wrote:
>Does the GPS-E-2c program work with the MFJ Data radio? I just purchased
>one and it gives unsquelched audio to the TNC. My older TNC requires
>squelched audio so I ordered the TAPR DCD kit for it. Will this radio work
>with the PIC-E and the GPS-E-2c program without an external DCD kit?
>
>Sorry if this has been asked before and I missed it.

This is not a function of the program as much as it is a function of the MX
614. The 614 essentially provides an energy detection circuit. It
provides a 5 volt signal to the pic chip if it detects any output from the
receiver (whether it is packet or not). The means that it will hold off
transmitting if unsquelched audio comes from the receiver.   This is the
nature of the 614, which is not really DCD.   But it couldn't be DCD since
the MX 614 was really designed for Bell 202 communication over phone lines.

John, W2FS

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16. [picsig] Handspring Visor Springboard modules

From: Russ and Joyce Brown <brownrj@home.com>
Date: Sat, 11 Sep 1999 00:33:17 -0700
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-39014-1999.09.11-02.42.44--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

See:
http://www.zdnet.com/zdnn/stories/news/0,4586,2330104,00.html

The Visor sounds like just the thing for some of the PIC-E projects to
plug into.
Russ Brown, KB6LUD

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17. [picsig] Re: DCD on PIC-E

From: "Sissom, Jay D" <jsissom@indiana.edu>
Date: Sat, 11 Sep 1999 11:29:19 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-39040-1999.09.11-11.40.06--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

So if we wanted to work with unsquelched audio, could we continually look
for the begin packet flag (which I think is 0xfe)? If we haven't seen one
of those, we could assume it is safe to transmit and ignore the energy
detect input from the MX614.

I don't know if there would be enough program memory in the PIC for this,
but do you think this would work?

As an alternative, will the TAPR DCD kit work with the PIC-E?

Thanks
Jay

-----Original Message-----
From: John Hansen [mailto:hansen@fredonia.edu]
Sent: Friday, September 10, 1999 9:40 PM
To: TAPR PIC Development Special Interest Group
Subject: [picsig] Re: DCD on PIC-E

At 04:28 PM 9/10/99 -0500, you wrote:
>Does the GPS-E-2c program work with the MFJ Data radio? I just purchased
>one and it gives unsquelched audio to the TNC. My older TNC requires
>squelched audio so I ordered the TAPR DCD kit for it. Will this radio work
>with the PIC-E and the GPS-E-2c program without an external DCD kit?
>
>Sorry if this has been asked before and I missed it.

This is not a function of the program as much as it is a function of the MX
614. The 614 essentially provides an energy detection circuit. It
provides a 5 volt signal to the pic chip if it detects any output from the
receiver (whether it is packet or not). The means that it will hold off
transmitting if unsquelched audio comes from the receiver.   This is the
nature of the 614, which is not really DCD.   But it couldn't be DCD since
the MX 614 was really designed for Bell 202 communication over phone lines.

John, W2FS

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18. [picsig] Re: DCD on PIC-E

From: James Jefferson <jjeffers@deskmedia.com>
Date: Sat, 11 Sep 1999 12:53:49 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>

Message-ID: <LYR6890-39045-1999.09.11-13.00.51--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>As an alternative, will the TAPR DCD kit work with the PIC-E?

Jay, the TAPR DCD kit would work with some slight modifications of the board. However Dorothy says that I got the very last kit the other day, so you would have to homebrew it (an EEPROM, latch, and some minor discrete stuff).

Fortunately I bought the last DCD kit with the purpose of creating a replacement that use an PIC exclusivly.

The thing more or less works on my board, but I have some clean-up to do. I'm intending to release it (and more-then-likely debug it) during DCC. It takes about 400 words of code and about 5 bytes of memory in order to acheive a real DCD state machine. I think it might be just perfect for one of those little 8-pin PIC's that I've been hopping to play with.

Byon and John: Are you guys bringing down some PIC programming hardware and breadboards? That could save me a bit of gear to carry... =)

Have fun,

-James Jefferson KB0THN
jjeffers@deskmedia.com
http://www.deskmedia.com/~jjeffers/

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19. [picsig] Re: DCD on PIC-E

From: "Steven R. Bible" <srbible@gate.net>
Date: Sat, 11 Sep 1999 14:03:32 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-39046-1999.09.11-13.13.12--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 11:29 AM 9/11/99 -0500, you wrote:
>So if we wanted to work with unsquelched audio, could we continually look
>for the begin packet flag (which I think is 0xfe)? If we haven't seen one
>of those, we could assume it is safe to transmit and ignore the energy
>detect input from the MX614.
>
>I don't know if there would be enough program memory in the PIC for this,
>but do you think this would work?
>
>As an alternative, will the TAPR DCD kit work with the PIC-E?

Good question. The answer is yes.

Highly recommended reading is Eric Gustafson's, N7CL, paper "Can We Continue to Ignore Level One?" in the Proceedings of the 7th ARRL Computer Networking Conference, Oct. 1988. The TAPR DCD kit(s) were created from Eric's paper.

The Exar XR-2211 chip can do proper hardware DCD. And yes you can wire up the XR-2211 and set up DCD input to the PIC. The beauty thing about using the XR-2211 is that the limitations of the PIC are gone. Simply sense the DCD signal from the XR-2211. And now you will have a solution to open squelched audio.

The added benefit of the XR-2211, you can configure it for data receive. Thus for one more chip on the PIC-E design and Byon's packet receive code, we could have a PIC based TNC design with a very robust receive front end.

I started to work on this circuit for the PIC-E-II. If enough people are interested I can create a web page explaining the concepts and a sample circuit to try. It would be great to get everyone's input on the circuit and TAPR can produce the kit.

- Steve, N7HPR
  n7hpr@tapr.org
  n7hpr@amsat.org

```
---
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```

20. [picsig] Re: DCD on PIC-E

From: Jeff King <jeff@aerodata.net>
Date: Sat, 11 Sep 1999 15:02:15 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-39051-1999.09.11-14.13.11--lyris.picsig#tapr.org@lists.tapr.org>
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Hi Jay:

"Sissom, Jay D" wrote:

> So if we wanted to work with unsquelched audio, could we continually look
> for the begin packet flag (which I think is 0xfe)? If we haven't seen one
> of those, we could assume it is safe to transmit and ignore the energy
> detect input from the MX614.

The begin packet flag is also the end packet flag (0x7E). However, bit
stuffing insures we never see a 0x7E within the frame, so we are safe to
use the begin/end flag as a latch command. But we need to determine state
since the char is both at the beginning and end.

Now, I see John Hansen is using 0x7E as both the flag and TXD character...
I'd assumed TXD would either be a 0x55 or 0xAA as both sequences are
commonly used to train modems as they have the most transitions. I've
not been able to find in the AX.25 protocol docs any definition of the
TXD char (but if anyone knows, it would be helpful). If there is no definition
of TXD char, then I would strongly recommend we change over from using
0x7E to 0xAA or 0x55 (and 0x7E would still be the unique flag char).

Our goal is to minimize DCD falsing and quickly detect energy. Our limitation
with state machine DCD will be the time for one octet to come in, I think
about 6ms. So we are going to have a 6ms lag time with any state machine
DCD.

So lets look at some Psedocode

So lets define some variables

```
TXD_SENSE    =  TXD sequence detected (and DCD_LATCH not set)
DCD_LATCH  =  First flag detected (0x7E)
DCD_DETECT =  (TXD_SENSE  OR  DCD_LATCH)
rcv_byte = byte coming in from modem

Assumptions:
TXD char is 0xAA

First we start out in the noise with no packet coming in.

If (rcv_byte == 0xAA && !DCD_LATCH)   // Seeing TXD and not in frame?
    TXD_SENSE = TRUE;
Else
    TXD_SENSE = FALSE;

DCD_DETECT = (DCD_LATCH OR TXD_SENSE);

// This gives us a quick DCD but will false on occasion

// Now we see a frame coming in
if (rcv_byte == 0x7e)            // Flag detect, is it start or end??
    {
    If (TXD_SENSE == TRUE)    // Start flag as TXD is seen before it
        {
        DCD_LATCH = TRUE;
        TXD_SENSE= FALSE;
        // Then load 16F84 timer1 with timeout number, and enable overflow
interupt
        }
    Else
        DCD_LATCH = FALSE;
        //Disable timer1 interupt
    }

DCD_DETECT = (DCD_LATCH OR TXD_SENSE);
```

And of course, within this loop we also will need to enable the RTC timer
in case we get the valid TXD/FLAG (which sets DCD_LATCH) but
the last flag is corrupted (and hence DCD_LATCH is never reset). The
16C84 supports a interupt on timer overflow, so we just load the timeout
value (a bit longer then the longest frame we expect).

> I don't know if there would be enough program memory in the PIC for this,
> but do you think this would work?

I don't think it would be much code at all. But it should work.

-Jeff

>
>
> As an alternative, will the TAPR DCD kit work with the PIC-E?
>
> Thanks
> Jay
>
> -----Original Message-----
> From: John Hansen [mailto:hansen@fredonia.edu]
> Sent: Friday, September 10, 1999 9:40 PM
> To: TAPR PIC Development Special Interest Group
> Subject: [picsig] Re: DCD on PIC-E
>
> At 04:28 PM 9/10/99 -0500, you wrote:
> >Does the GPS-E-2c program work with the MFJ Data radio? I just purchased
> >one and it gives unsquelched audio to the TNC. My older TNC requires
> >squelched audio so I ordered the TAPR DCD kit for it. Will this radio work
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> >
> >Sorry if this has been asked before and I missed it.
>
> This is not a function of the program as much as it is a function of the MX
> 614. The 614 essentially provides an energy detection circuit. It
> provides a 5 volt signal to the pic chip if it detects any output from the
> receiver (whether it is packet or not). The means that it will hold off
> transmitting if unsquelched audio comes from the receiver.   This is the
> nature of the 614, which is not really DCD.   But it couldn't be DCD since
> the MX 614 was really designed for Bell 202 communication over phone lines.
>
> John, W2FS
>
> ---
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> To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org
>
> ---
> You are currently subscribed to picsig as: jeff@aerodata.net
> To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

---
You are currently subscribed to picsig as: lyris.picsig@tapr.org
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21. [picsig] Re: DCD on PIC-E

From: Jeff King <jeff@aerodata.net>
Date: Sat, 11 Sep 1999 15:04:19 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-39052-1999.09.11-14.15.16--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

"Steven R. Bible" wrote:

> The added benefit of the XR-2211, you can configure it for data receive.
> Thus for one more chip on the PIC-E design and Byon's packet receive code,
> we could have a PIC based TNC design with a very robust receive front end.

FYI, the 2211 and 2206 were the core of the orginal Beta, TNC1 and TNC2.
You might as well just dump the MX-COM chip at that point. I believe
Eric's paper had many good things to say about the EXAR chips as well.
They are quite a bit cheaper then the MX-COM chip and you also don't
have to buy a crystal. The down side is they need more support components
(R's and C's) and you also need to tune the part. But I have found them to be

good performers.

I however wouldn't rule out a simple state machine based DCD for the
MX-COM (see my previous posting)

-Jeff

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22. [picsig] Re: DCD on PIC-E

From: Tim Salo <salo@networkcs.com>
Date: Sat, 11 Sep 1999 14:18:35 -0500 (CDT)
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-39054-1999.09.11-14.29.11--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> Date: Sat, 11 Sep 1999 15:02:15 -0400
> From: Jeff King <jeff@aerodata.net>
> Subject: [picsig] Re: DCD on PIC-E
>
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> not been able to find in the AX.25 protocol docs any definition of the
> TXD char (but if anyone knows, it would be helpful). If there is no definition
> of TXD char, then I would strongly recommend we change over from using
> 0x7E to 0xAA or 0x55 (and 0x7E would still be the unique flag char).

First, I believe the following section of the AX.25 V2.0 spec is relevant:

        2.2.11 Interframe Time Fill

        Whenever it is necessary for a DXE to keep its transmitter on
        while not actually sending frames, the time between frames
        should be filled with contiguous flags.

AX.25 v2.2 says the same thing, (but calls a "DXE" a "TNC").

Second, I am just a software guy, but I suspect that the utility of
using an alternating bit pattern to gain bit sync may vary with
encoding technique. Someone ought to render an opinion about the
usefulness of an alternating bit pattern, rather than flags, to help the
receiver gain bit sync. Using flags, on the other hand, increases the
probability of detecting the start of a frame.

-tjs

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23. [picsig] Re: DCD on PIC-E

From: Jeff King <jeff@aerodata.net>
Date: Sat, 11 Sep 1999 16:24:58 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-39081-1999.09.11-15.35.49--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi Tim:

Tim Salo wrote:

> First, I believe the following section of the AX.25 V2.0 spec is relevant:
>
>   2.2.11 Interframe Time Fill
>
>   Whenever it is necessary for a DXE to keep its transmitter on
>   while not actually sending frames, the time between frames
>   should be filled with contiguous flags.

Its two different things. TXD is a delay inserted before the first flag/frame
that allows the transmitter to stabilizes AND the receive modem to
sync up. Being the case, its more of a level one issue, so it might not
suprise me that its not specifically defined in the AX.25 document.

The AX.25 spec defines a 0x7E at the end of a frame as well as
between multiple frame transmissions. So, for example, if you were
generating frames on the fly, and didn't want to drop the transmitter
while you were calculating the next frame, 2.2.11 would apply.

Also, I don't believe APRS ever extends across more then one frame, so
I didn't touch multiframe issues.

> Second, I am just a software guy, but I suspect that the utility of
> using an alternating bit pattern to gain bit sync may vary with
> encoding technique.

The 0xAA and 0x55 thing I mentioned is used in any type of modem
that may have a problem with DC bias shift. Since the ones and zeros
are balanced in either combination, it allows a slicer to be set. Its
NOT a receiver bit sync issue, but a training sequence for the modem
HARDWARE.

> Someone ought to render an opinion about the
> usefulness of an alternating bit pattern, rather than flags, to help the
> receiver gain bit sync. Using flags, on the other hand, increases the
> probability of detecting the start of a frame.

I didn't suggest dropping the flag char. I just suggested that possibly
using flags as TXD might not be the best idea. Of course, after the
TXD interval you would send a flag, so as far as AX.25 was concerned,
it would be no different. Remember, AX.25 only requires one frame
char, and with a txd setting of 300ms you end up sending 50 of them
assuming your using FLAG as the TXD char. If you used a 0xAA as
the TXD char, you'd end up sending 49 0xAA's then a FLAG then
your AX.25 frame.

Also, one thing I didn't consider in my original post is what the rest
of the industry is using. For example, what does MFJ (TNC2 code)
use for a TXD char? How about Kantronics? And I get a funny
feeling that this 2 flag end problem John ran into might have something
to do with some manufacturer doing things there own way.

Lets not drift to far off the point of the posting. With regards to using
FLAGS as DCD, it was just my thought life would be easier if TXD
was something besides a flag. I'm sure even if TXD remained flags,
there would be a method to determine state.

-Jeff

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24. [picsig] Re: DCD on PIC-E

From: "Byon Garrabrant" <byon@mail.com>
Date: Sat, 11 Sep 1999 17:40:42 -0700
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-39089-1999.09.11-19.53.06--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

What's the goal of this discussion? I thought it was to allow use of
open squelch radios with a PIC-E. If so, discussing which TXD
char should be sent is mute. If the existing TNCs and other packet
transmitters are not sending the desired TXD char, there is nothing
you can do about it. Instead, we should be discussing how we can
detect DCD (does that stand for Digital Carrier Detect?) with the
existing infrastructure, and hopefully with the existing PIC-E.

With my first pass on packet decoding for the PIC-E (pktin01.zip), I
attempted to decode UI beacons from my Kantronics KPC9612. I
found that the TNC sent continuous flag chars (0x7E) during the
TXD time. So, I wrote my packet decoder to look for multiple
sequential flag chars (3 I think) before considering to be receiving a
packet. This worked well, and added some good noise immunity,
because, even though noise (and silence) toggled the RXD data_in
bit constantly, and flag chars appeared commonly (couple per
second), rarely would it see 3 sequential flag chars. This way I
didn't incorrectly send PACKET_START messages out the serial
port during times of static (even though receiving a random flag
char was common). All was well.

But, in PeekPack development, I found packet bursts off the air were often not decoded. I was using the same pktin01 code that (usually) worked on the bench with my TNC. I decided to capture a few bursts with my sound card, and built a wav file. I sent the audio to my TNC and it decoded fine, but when I sent it to the PIC, it decoded nothing. I studied further and found that many of the burst off the air (that all may have been coming from a single DIGI TNC) did not have many flag chars before the packet. They only had 1 flag char. So my code to find 3 in a row always failed, and it never considered itself to be in a packet. I changed the code to only require one flag char, and I started decoding everything. However, I got lots of false starts during noise, but the design of PeekPack allowed for that because it wouldn't start displaying until it received a complete CRCed packet.

So, how can we do a DCD on the PIC-E, given that different TNC send different data during TXD? Well, I don't know what a proper/official DCD is supposed to do. I assume just distinguish between packet and non-packet data, especially during the TXD phase. I read the Gustafson paper, but it seems to be more based on hardware hookups than logical function. Can anyone give a good definition?

I noticed that during noise/silence/non-packet, the modem saw long durations (> seven bits worth) of a single tone. Since this can never happen in real a packet, and I never saw it during the TXD time on the non-flag TXD TNC, I would consider receiving more than 7 same bits in a row to represent a non-DCD state. These long streams occured very often in noise. (evey other common bit-block or so). So, if we see < 7 same bits for the last 15 or so bits, that may be a good signal of DCD.

Uh - Oh! The XYL says the harmonics want to go to Circus-Circus, so I'll have to continue this later.

73,
Byon

_____
 Byon Garrabrant   N6BG   byon@mail.com

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25. [picsig] Re: DCD on PIC-E

From: "KM6YH" <km6yh@ocraces.org>
Date: Sat, 11 Sep 1999 18:19:14 -0700
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-39092-1999.09.11-20.31.31--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Thank you professor!

73, YH

PS: When you guys coming out for dinner?

YH

----- Original Message -----
From: Byon Garrabrant <byon@mail.com>
To: TAPR PIC Development Special Interest Group <picsig@lists.tapr.org>
Sent: Saturday, September 11, 1999 5:40 PM
Subject: [picsig] Re: DCD on PIC-E

What's the goal of this discussion? I thought it was to allow use of open squelch radios with a PIC-E. If so, discussing which TXD char should be sent is mute. If the existing TNCs and other packet transmitters are not sending the desired TXD char, there is nothing you can do about it. Instead, we should be discussing how we can detect DCD (does that stand for Digital Carrier Detect?) with the existing infrastructure, and hopefully with the existing PIC-E.

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found that the TNC sent continuous flag chars (0x7E) during the
TXD time. So, I wrote my packet decoder to look for multiple
sequential flag chars (3 I think) before considering to be receiving a
packet. This worked well, and added some good noise immunity,
because, even though noise (and silence) toggled the RXD data_in
bit constantly, and flag chars appeared commonly (couple per
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However, I got lots of false starts during noise, but the design of
PeekPack allowed for that because it wouldn't start displaying until
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proper/official DCD is supposed to do. I assume just distinguish
between packet and non-packet data, especially during the TXD
phase. I read the Gustafson paper, but it seems to be more based
on hardware hookups than logical function. Can anyone give a
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7 same bits in a row to represent a non-DCD state. These long
streams occured very often in noise. (evey other common bit-block
or so). So, if we see < 7 same bits for the last 15 or so bits, that
may be a good signal of DCD.

Uh - Oh! The XYL says the harmonics want to go to Circus-Circus,
so I'll have to continue this later.

73,
Byon

_____
 Byon Garrabrant   N6BG   byon@mail.com

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26. [picsig] Re: DCD on PIC-E

From: Jeff King <jeff@aerodata.net>
Date: Sat, 11 Sep 1999 22:18:20 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-39095-1999.09.11-21.32.07--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Byon Garrabrant wrote:

> So, how can we do a DCD on the PIC-E, given that different TNC
> send different data during TXD?

Well, do we really know that? I've gone through all the documents
and can't find a definitive definition of what TXD is supposed to be
in AX.25. In some of the earlier CNC (predecessor to the DCC) papers

I see mention of a "sync" field that is sent before the first FLAG. The
"sync" being the bit pattern other then 0x7E sent during TXD.

However, the long and the short of it appears to be NO standard for
TXD hence my earlier algorithm won't work. It does however appear
most did chose 0x7E, has that been your experience of on the air
decoding?

> Well, I don't know what a
> proper/official DCD is supposed to do. I assume just distinguish
> between packet and non-packet data, especially during the TXD
> phase.

It really depends.... some would say energy detect on the channel...
(but possible bad data) others would say valid data on the channel.
But the key to a good DCD circuit is a quick and effective response,
a little hang time is OK (and in fact, I believe one of the TAPR DCD
mods had hang time in it), but it needs to immediately detect if a station
is on frequency. So I would err on the side of false DCD detect in
any algorithm.

> I noticed that during noise/silence/non-packet, the modem saw
> long durations (> seven bits worth) of a single tone. Since this can
> never happen in real a packet, and I never saw it during the TXD
> time on the non-flag TXD TNC, I would consider receiving more than
> 7 same bits in a row to represent a non-DCD state. These long
> streams occured very often in noise. (evey other common bit-block
> or so). So, if we see < 7 same bits for the last 15 or so bits, that
> may be a good signal of DCD.

Well, you'll miss Frame Abort (which under the AX.25 Ver 2.0 spec
is fifteen contiguous ones without bit stuffing). But this may be insignificant.

I'm also not completely comfortable with that approach as it may be
more a artifact of the MX-COM modem and/or the passband
characteristics of the radio you happen to be using. In other words,
it may not be a universal solution. Try putting a low pass or highpass
filter on your radio output (but not enough to stop you from decoding
packet) and see if you can switch the average bit output of the MX-COM.

Also, isn't it possible to send a long string of 0's in AX.25? I know bit
stuffing occurs for 5 or more ones in a row (to prevent a false FLAG),
bit it doesn't seem to apply if 5 or more 0's are in a row.

The AX.25 standard is tight enough to know when to turn DCD OFF
however once you know your inside of a frame. As soon as you receive
the stop flag AND receive something else besides 0x7E, then you know
your out of the frame (assuming a single frame). This would also handle
the condition John mentioned of having to send 2 end frames instead
of the specs one.

Then again, maybe there is no definitive answer expect for the 2211 as Steve
suggested although I am interested in what James comes up with.

-Jeff

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27. [picsig] Re: DCD on PIC-E

From: "KM6YH" <km6yh@ocraces.org>
Date: Sat, 11 Sep 1999 20:26:28 -0700
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-39098-1999.09.11-22.39.03--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

My apologies to the SIG.

Did not mean to send my personal greetings and dinner invite to all.

The dinning room table isn't that big!

73, Ken, KM6YH

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28. [picsig] Re: DCD on PIC-E

From: "Byon Garrabrant" <byon@mail.com>
Date: Sat, 11 Sep 1999 23:31:53 -0700
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-39132-1999.09.12-01.44.07--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On 11 Sep 99, at 22:18, Jeff King wrote:

> Byon Garrabrant wrote:
>
> > So, how can we do a DCD on the PIC-E, given that different TNC
> > send different data during TXD?
>
> Well, do we really know that?

Yes, data follows below.

> Also, isn't it possible to send a long string of 0's in AX.25? I know bit
> stuffing occurs for 5 or more ones in a row (to prevent a false FLAG), bit
> it doesn't seem to apply if 5 or more 0's are in a row.

When I was talking about >7 bits, I meant before NRZI decode.
You are talking about (I think) after NRZI decode above. A string of
many post-NRZI-decoded 0 would be many toggling tones pre-NRZI-
decode, and would thus be detected by the DCD algorithm I was
talking about.

Here is some sample decoded data from two packet bursts. The
first recorded off the air, as repeated by N7ZEV-2 (I should find out
what TNC he uses), the second a burst direct from my TNC. The
series of 0 and 1 bits are the post NRZI decoded data. Below that
is a hex dump of data. You will notice the first sample sends the
following string:

07434141210101E1 C0C0A08080604040
2000000000000000 00000000000FDE

surrounded by 0x7E before the actual packet, and only 1 flag byte
between the above string and the actual data. This sample only
contains 3 flag bytes, total.

The second sample sends many (22?) flag bytes, and then the
data.

Just a little empirical evidence, incase it helps.

Can someone describe, logically, what the TAPR DCD kits does?
What does it need to see, and when, to assert or clear DCD out?

Byon

==

11100111111011100000110000101000001010000010100001
00100000001000000010000111000000110000001100000101
00000001000000010000011000000010000000100000010000
00000000000000000000000000000000000000000000000000
00000000000000000000000000000000000000000000111100
00011110111111001001001000100010000001000000010000
00010000000100000011001110101001101100110100100100
10101110101000000010010001100011100101110110010110
10101000100110101000000100100011100111001011101100
01011010101000100110101000000100010011101110101010
01001000100010101000100000010000000101000011011000
00000001111101101010011011001101001001001010111010
10101101001000110011110100010010100000010001011010
10110100110011001111010011000100000010000000110011
11010001000010101100000010100110000001011111101010
00000000000000000000000011001000100000001111111100
11

07434141210101E1 C0C0A08080604040 [.! ...p``P@@0]

```
[.CAA!........`@@]
2000000000000000 00000000000FDE   [..............o ] [ .............. ]

--------------------------------------------------------------------------
92884040404060AE 6C96A4AE40629C6E [ID    0W6KRW 1N7]
[..@@@@`.l...@b.n]
B48AAC40E29C6EB4 8AAC40E4AE92888A [ZEV qN7ZEV
rWIDE] [...@..n...@.....]
40406103F057364B 52572D312F52205A [  0.x+.%)+...).-]
[@@a..W6KRW-1/R Z]
2D332F4720302F42 0D9481           [...#...!.J@     ] [-3/G 0/B...     ]

W6KRW-1>ID,N7ZEV-1,N7ZEV-2,WIDE[03F0]:
W6KRW-1/R Z-3/G 0/B

================================================

11111001111110011111100111111001111111001111110
01111110011111100111111001111110011111100111111110
01111110011111100111111001111110011111100111111110
01111110011111100111111001111110011000010100010 1
00000010000000100000001000000010000001100011100 1
00110110001000010111000100000010000000101000011 0
11000000000011110010111010100110110011100010111 0
10110000101011001001100001111110011111100111111 1
1101011110101101011110 0

--------------------------------------------------------------------------
86A240404040609C 6C848E40406103F0 [CQ    0N6BG  0.x]
[..@@@@`.l..@@a..]
746573740D3519                    [:29:...         ] [test.5.         ]

N6BG>CQ[03F0]:
test

================================================


_____________________________________
 Byon Garrabrant   N6BG   byon@mail.com



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```

29. [picsig] Re: DCD on PIC-E

From: "Byon Garrabrant" <byon@mail.com>
Date: Sat, 11 Sep 1999 23:35:21 -0700
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-39133-1999.09.12-01.47.17--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On 11 Sep 99, at 22:18, Jeff King wrote:

> The AX.25 standard is tight enough to know when to turn DCD OFF
> however once you know your inside of a frame. As soon as you receive
> the stop flag AND receive something else besides 0x7E, then you know your
> out of the frame (assuming a single frame).

I disagree. The stop flag of one packet could also be the start flag
of a following packet, and thus turning off DCD at that point would
be a mistake.

Byon

____
 Byon Garrabrant   N6BG   byon@mail.com

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30. [picsig] Re: DCD on PIC-E

From: Derek Lassen <kn6td@clubnet.net>
Date: Sun, 12 Sep 1999 00:01:03 -0700

To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-39136-1999.09.12-02.15.45--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

If I may I think I can state what DCD is *supposed* to do:

Indicate that a "Non-Noise, Non-Voice" signal is being received.

Noise is random. Voice is non random, but carries energy in more than 2
frequencies.

A valid 1200 baud signal would have most of the detectable energy in 2
frequencies.

Since we know what those are ahead of time, can we write a routine which
does and accumulate and dump loop at the right rate to detect these? The
routine would grab energy estimates at the Nyquist rates for the 2
frequencies, and do a real time average. Unless that average exceeded some
threshold, it wouldn't believe the flag that it had received.

I think it might be eiser to pick three frequencies which are excluded by
the valid modulation and if these are seen, ignore the flag. In other
words, as long as energy is seen in these 3 frequencies, stay in the "I am
from Missouri" mode.

I really don't know if the PIC has enough poop to do this but I suspect
that it has.

At 11:35 PM 9/11/99 -0700, you wrote:
>On 11 Sep 99, at 22:18, Jeff King wrote:
>
>> The AX.25 standard is tight enough to know when to turn DCD OFF
>> however once you know your inside of a frame. As soon as you receive
>> the stop flag AND receive something else besides 0x7E, then you know your
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>
>I disagree. The stop flag of one packet could also be the start flag
>of a following packet, and thus turning off DCD at that point would
>be a mistake.
>
>Byon
>
>_____________________________________
> Byon Garrabrant   N6BG   byon@mail.com
>
>
>
>---
>You are currently subscribed to picsig as: kn6td@clubnet.net
>To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org
>

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

31. [picsig] Re: DCD on PIC-E

From: Jeff King <jeff@aerodata.net>
Date: Sun, 12 Sep 1999 03:24:40 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-39137-1999.09.12-02.33.52--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Byon Garrabrant wrote:

> On 11 Sep 99, at 22:18, Jeff King wrote:
>
> > The AX.25 standard is tight enough to know when to turn DCD OFF
> > however once you know your inside of a frame. As soon as you receive
> > the stop flag AND receive something else besides 0x7E, then you know your
> > out of the frame (assuming a single frame). <<<<<< NOTE this Byron
>
> I disagree. The stop flag of one packet could also be the start flag
> of a following packet, and thus turning off DCD at that point would
> be a mistake.

As I said, assuming a single frame. I know it would be a mistake for
generallized
packet, but in this specific case we were talking about single frame

transmissions
(such as from APRS). I don't believe APRS transmissions span more then one
frame.

I agree, multi-frames it would be a mistake. But maybe the whole software DCD
idea is a mistake the more I think about it.

Again, as I stressed, you need a responsive DCD however you decide to
do it.

-Jeff

>
>
> Byon
>
> _____
> Byon Garrabrant   N6BG   byon@mail.com
>
> ---
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> To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

---
You are currently subscribed to picsig as: lyris.picsig@tapr.org
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32. [picsig] Re: DCD on PIC-E

From: Jeff King <jeff@aerodata.net>
Date: Sun, 12 Sep 1999 03:46:28 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-39138-1999.09.12-02.55.57--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Byon Garrabrant wrote:

> On 11 Sep 99, at 22:18, Jeff King wrote:
>
> > Also, isn't it possible to send a long string of 0's in AX.25? I know bit
> > stuffing occurs for 5 or more ones in a row (to prevent a false FLAG), bit
> > it doesn't seem to apply if 5 or more 0's are in a row.
>
> When I was talking about >7 bits, I meant before NRZI decode.
> You are talking about (I think) after NRZI decode above.

Your right, I didn't consider NRZI.

I still suggest to you that you may want to further test your ">7 bit" idea for
DCD
by shaping the white noise and seeing the results on the MX614 data out. As I
suggested, the audio response (for white noise) of your radio's audio section
may be steering the digital output of the MX614 one way or the other. Not
that it wouldn't work for you, but I'm assuming your goal is to make a
repeatable
software product across different radio combinations.

> A string of
> many post-NRZI-decoded 0 would be many toggling tones pre-NRZI-
> decode, and would thus be detected by the DCD algorithm I was
> talking about.

Now, was that detecting lack of DCD (your >7bit idea) or detect
transitions within a minimum bit time (hence detecting DCD).

BTW, thanks for the decode of the data. Looks like someone committed a
fapooh by not defining TXD in the spec. I ended up going through the
first 5 CNC/DCC papers and couldn't find any mention of it for AX.25
docs although it is (kinda) defined for the Vancouver protocol.

Best regards,

Jeff

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33. [picsig] Re: DCD on PIC-E

From: "Byon Garrabrant" <byon@mail.com>
Date: Sun, 12 Sep 1999 01:41:08 -0700
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-39139-1999.09.12-03.53.08--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On 12 Sep 99, at 3:24, Jeff King wrote:

> Byon Garrabrant wrote:
>
> > On 11 Sep 99, at 22:18, Jeff King wrote:
> >
> > > The AX.25 standard is tight enough to know when to turn DCD OFF
> > > however once you know your inside of a frame. As soon as you receive
> > > the stop flag AND receive something else besides 0x7E, then you know
> > > your out of the frame (assuming a single frame). <<<<<< NOTE this
> > > Byron
> > >
> > I disagree. The stop flag of one packet could also be the start flag of
> > a following packet, and thus turning off DCD at that point would be a
> > mistake.
>
> As I said, assuming a single frame. I know it would be a mistake for
> generallized
> packet, but in this specific case we were talking about single frame
> transmissions
> (such as from APRS). I don't believe APRS transmissions span more then one
> frame.

Well, Just because the protocal is not sending multiple frames,
doesn't mean the TNC won't pack packet frames together. If you
send two single-frame APRS UI packets to the TNC, say a WX and
a POS report some 10 seconds apart, but the channel is very busy
during those 10 seconds, the first packet will sit in the TNC until
the second one arrives. Then, when the channel is free, both
frames/packets could be sent, back-to-back, with just a single flag
separating them, yes??? (I'm assuming, here)

Byon
_____
 Byon Garrabrant   N6BG   byon@mail.com

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34. [picsig] Re: DCD on PIC-E

From: Jeff King <jeff@aerodata.net>
Date: Sun, 12 Sep 1999 04:57:51 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-39140-1999.09.12-04.07.09--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Byon Garrabrant wrote:

>
> If you
> send two single-frame APRS UI packets to the TNC, say a WX and
> a POS report some 10 seconds apart, but the channel is very busy
> during those 10 seconds, the first packet will sit in the TNC until
> the second one arrives. Then, when the channel is free, both
> frames/packets could be sent, back-to-back, with just a single flag
> separating them, yes??? (I'm assuming, here)

I know that would be true in connected mode, I'm not sure in UI mode
however, but it makes sense.

How much does a 567 cost these days? Can't be much, and I suspect alot
less then a 2211.

-Jeff

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35. [picsig] DCD State Engine (Long Paper Included)

From: James Jefferson <jjeffers@deskmedia.com>
Date: Sun, 12 Sep 1999 10:44:42 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-39160-1999.09.12-10.52.15--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I've been thinking about DCD for quite a while now and my conclusion is
that you can't use flags as a proper DCD. What happens when you miss the
start flag, but catch the stop flag? Your DCD goes valid until the next
packet comes in, and the end result it that your DCD polarity is reveresed
until you miss another flag. Not good, however I suspect you could get the
scheme to work in a strong signal enviroment with fairly good luck.

FWIW Here is how to do a proper DCD. This is exactly what a TAPR DCD kit
does. My DCD PIC is supposed to emulate the TAPR kit, however I'm having a
little bit of trouble coding a replacement for some analog parts circuitry.
Most of that troubles comes from that fact that I haven't work on it for
over a month (and having loaned my PIC programmer to a buddy)...

-Jim

```
                  ------------------------------------

                       Replacement for STATE V1.09

    /* Fixes phase detector and switches NRZI state address in
       Input Data State = 1 portion of state table.  Centers
       Clock betwen bit transitions for use in 9600 baud modems */

    Modified Modem Clock Recovery State Machine Operational Description

                                31 OCT 91

                           Eric Gustafson  N7CL

                  ------------------------------------


                 ROM Address Port Input Signal Functions


BIT 7 = Latched Input Data    (PLL State BIT 3, Transition Detection)

BIT 6 = Latched PLL State (BIT 2)

BIT 5 = Latched PLL State (BIT 1)

BIT 4 = Latched PLL State (BIT 0)

BIT 3 = Latched Clock Phase (BIT 3)

BIT 2 = Latched Clock Phase (BIT 2)

BIT 1 = Latched Clock Phase (BIT 1)

BIT 0 = Latched Clock Phase (BIT 0)


                  ROM Data Port Output Signal Functions


BIT 7 = Lock Detect Output

BIT 6 = Output Data After NRZI to NRZ Conversion, PLL State Feedback

BIT 5 = Unused As External Output, PLL State Feedback

BIT 4 = Unused As External Output, PLL State Feedback

BIT 3 = Recovered Data Clock Output, Next Clock Phase (BIT 3)
```

```
BIT 2 = Unused As External Output, Next Clock Phase (BIT 2)

BIT 1 = Unused As External Output, Next Clock Phase (BIT 1)

BIT 0 = Unused As External Output, Next Clock Phase (BIT 0)



                            STATE DESCRIPTIONS

PLL STATE  0   <STARTUP  0>

    ADDR    | 00 01 02 03 04 05 06 07 08 09 0A 0B 0C 0D 0E 0F |
    DATA    | 01 02 03 04 05 06 07 08 59 0A 0B 0C 0D 0E 0F 00 |

        /* Spin through Clock Phases until Clock Phase = 8.  Then jump
           through PLL state 5 (phase detector 0) to get vectored through
           PLL state 1 to PLL State 4 to wait for the starting transition */

        Entry:
          Power up in Illegal PLL state 2,3,6, or 7
                    OR
          Data Transition 1 to 0 from PLL State 8  /* PLL out of Lock */

        Action:
          Set Output Data == 0
          Set Locked == 0
          Spin Clock Phases until:
             Clock Phase = 8
                    OR
             Data Transition 0 to 1

        Exit:
          IF Clock Phase 8 THEN:        /* startup sequence data state 0 */
            Set Output Data == 1
            Switch PLL state to 5
                     OR
          IF data transition 0 to 1 THEN go to PLL state 8
            /* continue startup sequence data state 1 */


PLL STATE  1   <NRZI CONVERSION  0>

    ADDR    | 10 11 12 13 14 15 16 17 18 19 1A 1B 1C 1D 1E 1F |
    DATA    | 91 92 93 94 95 96 97 98 99 CA 9B 9C 9D 9E 9F 90 |

        Entry:
          Immediate Vector from PLL State 5 (Clock Phase != 8)
             /* Locked - do NRZI to NRZ conversion */
                          OR
          Data Transition 1 to 0 from PLL state 9
             /* PLL out of lock - output data and clock invalid */
                          OR
          Clock Phase = 8 from PLL State 5
             /* PLL out of lock - part of startup sequence */

        Action:
          Set Output Data = 0
          Set Locked == 1
          Spin Clock Phases until:
            Clock Phase = 9
                  OR
            Data Transition 0 to 1

        Exit:
          If Clock Phase 9 THEN:      /* Locked - NRZI to NRZ conversion */
            Set Output Data = 1
            Switch PLL State to 4
                          OR
          If Data Transition 0 to 1 THEN:   /* PLL out of Lock */
            Go To PLL state 9


PLL STATE  2   <ILLEGAL STATE>

    ADDR    | 20 21 22 23 24 25 26 27 28 29 2A 2B 2C 2D 2E 2F |
    DATA    | 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 |
```

```
        Entry:
          Power Up with Data = 0

        Action:
          Set Output Data == 0
          Set Locked == 0
          Set Clock Phase == 0
          Go To PLL State 0

        Exit:
          Unconditional jump to PLL state 0


PLL STATE  3   <ILLEGAL STATE>

    ADDR    | 30 31 32 33 34 35 36 37 38 39 3A 3B 3C 3D 3E 3F |
    DATA    | 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 |

        Entry:  Power Up with Data = 0

        Action:
          Set Output Data == 0
          Set Locked == 0
          Set Clock Phase == 0
          Go To PLL State 0

        Exit:  Unconditional jump to PLL state 0


PLL STATE  4   <COUNTER 0>

    ADDR    | 40 41 42 43 44 45 46 47 48 49 4A 4B 4C 4D 4E 4F |
    DATA    | C1 C2 C3 C4 C5 C6 C7 C8 C9 CA CB CC CD CE CF C0 |

        /* Spins through Clock Phases waiting for the next Data Transition.
           Will spin forever in this state absent a Data Transition.  Data
           Transition will jump to PLL state C (phase detector 1) where it
           enters at the current Clock Phase */

        Entry:
          Clock Phase = A from PLL State 1
            /* Locked - entry from NRZI to NRZ converter */

        Action:
          Set Output Data == 1
          Set Locked == 1
          Spin until Data Transition 0 to 1

        Exit:  Data Transition 0 to 1
          /* Locked - jump to phase detector 1 for clock phase adjustment */



PLL STATE  5   <PHASE DETECTOR 0>

    ADDR    | 50 51 52 53 54 55 56 57 58 59 5A 5B 5C 5D 5E 5F |
    DATA    | 92 92 92 93 94 95 96 17 18 19 1C 1D 9E 9F 90 91 |

        Entry:
          Data Transition 1 to 0 from PLL State D  /* Locked */
                        OR
          Clock Phase = 9 from PLL State 0    /* startup sequence */

        Action:
          Set Output Data == 0
          IF <Clock Phase != 7 to B> THEN Locked == 1 ELSE Locked == 0
          IF <Clock Phase == 2 to 9> THEN retard Clock by 1 State (22 deg)
          IF <Clock Phase == A to 0> THEN advance Clock by 1 State
          IF <Clock Phase == 1 to 1> THEN do NOT adjust Clock phase

        Exit:  Unconditional jump to PLL State 1
          /* Jumps to PLL State 1 for NRZI to NRZ conversion */


PLL STATE  6   <ILLEGAL STATE>

    ADDR    | 60 61 62 63 64 65 66 67 68 69 6A 6B 6C 6D 6E 6F |
    DATA    | 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 |
```

```
        Entry:  Power Up with Data = 0

        Action:
          Set Output Data == 0
          Set Locked == 0
          Set Clock Phase == 0
          Go To PLL State 0

        Exit:  Unconditional jump to PLL state 0


PLL STATE  7   <ILLEGAL STATE>

    ADDR    | 70 71 72 73 74 75 76 77 78 79 7A 7B 7C 7D 7E 7F |
    DATA    | 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 |
        Entry:  Power Up with Data = 0

        Action:
          Set Output Data == 0
          Set Locked == 0
          Set Clock Phase == 0
          Go To PLL State 0

        Exit:  Unconditional jump to PLL state 0


PLL STATE  8   <STARTUP 1>

    ADDR    | 80 81 82 83 84 85 86 87 88 89 8A 8B 8C 8D 8E 8F |
    DATA    | 01 02 03 04 05 06 07 08 C9 0A 0B 0C 0D 0E 0F 00 |

        /* Spin through Clock Phases until Clock Phase = 8.  Then jump
           through PLL state C (phase detector 1) to get vectored through
           PLL State D to wait for the starting transition */

        Entry:
          Data Transition 0 to 1 from PLL State 0  /* PLL out of lock */
                  OR
          Power up in Illegal PLL state A,B,E, or F

        Action:
          Set Output Data == 0
          Set Locked == 0
          Spin Clock Phases until:
             Clock Phase = 8
                    OR
             Data Transition 1 to 0

        Exit:
          IF Clock Phase 8 THEN:    /* Jump through phase detector 1 */
            Set Output Data == 1    /* as part of startup sequence.  */
            Switch PLL state to C
                    OR
          IF data transition 1 to 0 THEN go to PLL state 0
            /* continue running through startup sequence */


PLL STATE  9   <NRZI CONVERSION 1>

    ADDR    | 90 91 92 93 94 95 96 97 98 99 9A 9B 9C 9D 9E 9F |
    DATA    | 91 92 93 94 95 96 97 98 99 DA 9B 9C 9D 9E 9F 90 |

        Entry:
          Immediate Vector from PLL state C (Clock Phase != 9)
            /* PLL Locked - do NRZI to NRZ conversion */
                    OR
          Clock Phase = 9 from PLL State C
            /* PLL out of lock - part of startup sequence */

        Action:
          Set Output Data == 0
          Set Locked == 1
          Spin Clock Phases until:
            Clock Phase = 9
                  OR
            Data Transition 0 to 1

        Exit:
```

```
          If Clock Phase 9 THEN:    /* NRZI to NRZ Conversion, PLL locked */
            Set Output Data ==  1
            Switch PLL State to D
                    OR
          If Data Transition 1 to 0 THEN go to PLL state 1
            /* PLL out of lock - jump through PLL State 1 (NRZI conversion
               0) to PLL State 4 (counter 0) to wait for next Data
               Transition */


PLL STATE  A   <ILLEGAL STATE>

    ADDR    | A0 A1 A2 A3 A4 A5 A6 A7 A8 A9 AA AB AC AD AE AF |
    DATA    | 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 |

        Entry:
          Power Up with Data = 1

        Action:
          Set Output Data == 0
          Set Locked == 0
          Set Clock Phase == 0
          Go To PLL State 8

        Exit:
          Unconditional jump to PLL state 8


PLL STATE  B   <ILLEGAL STATE>

    ADDR    | B0 B1 B2 B3 B4 B5 B6 B7 B8 B9 BA BB BC BD BE BF |
    DATA    | 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 |

        Entry:
          Power Up with Data = 1

        Action:
          Set Output Data == 0
          Set Locked == 0
          Set Clock Phase == 0
          Go To PLL State 8

        Exit:
          Unconditional jump to PLL state 8


PLL STATE  C   <PHASE DETECTOR 1>

    ADDR    | C0 C1 C2 C3 C4 C5 C6 C7 C8 C9 CA CB CC CD CE CF |
    DATA    | 92 92 92 93 94 95 96 17 18 19 1C 1D 9E 9F 90 91 |

        Entry:
          Data Transition 0 to 1 from PLL State 4  /* PLL Locked */
                        OR
          Clock Phase = 9 from PLL State 8         /* PLL out of Lock */

        Action:
          Set output Data == 0
          IF <Clock Phase != 7 to B> THEN Locked == 1 ELSE Locked == 0
          IF <Clock Phase == 2 to 9> THEN retard Clock by 1 State (22 deg)
          IF <Clock Phase == A to 0> THEN advance Clock by 1 State
          IF <Clock Phase == 1 to 1> THEN do NOT adjust Clock phase

        Exit:
          Unconditional jump to PLL State 9


PLL STATE  D   <COUNTER 1>

    ADDR    | D0 D1 D2 D3 D4 D5 D6 D7 D8 D9 DA DB DC DD DE DF |
    DATA    | D1 D2 D3 D4 D5 D6 D7 D8 D9 DA DB DC DD DE DF D0 |

        /* Spins through Clock Phases waiting for the next Data Transition.
           Will spin forever in this state absent a Data Transition.  Data
           Transition will jump to PLL state 5 (phase detector 0) where it
           enters at the current Clock Phase */

        Entry:
          Clock Phase = A from PLL State 9
```

```
            /* PLL Locked - entry from NRZI to NRZ converter */

        Action:
          Set output Data == 1
          Set Locked == 1
          Spin until Data Transition 0 to 1

        Exit:  Data Transition 0 to 1
          /* Locked - jump to phase detector 0 for clock phase adjustment */


PLL STATE  E   <ILLEGAL STATE>

    ADDR    | E0 E1 E2 E3 E4 E5 E6 E7 E8 E9 EA EB EC ED EE EF |
    DATA    | 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 |

        Entry:
          Power Up with Data = 1

        Action:
          Set Output Data == 0
          Set Locked == 0
          Set Clock Phase == 0
          Go To PLL State 8

        Exit:
          Unconditional jump to PLL state 8


PLL STATE  F   <ILLEGAL STATE>

    ADDR    | F0 F1 F2 F3 F4 F5 F6 F7 F8 F9 FA FB FC FD FE FF |
    DATA    | 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 |

        Entry:
          Power Up with Data = 1

        Action:
          Set Output Data == 0
          Set Locked == 0
          Set Clock Phase == 0
          Go To PLL State 8

        Exit:
          Unconditional jump to PLL state 8

[EOF]

---
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```

36. [picsig] DCD State Engine (continued)

From: James Jefferson <jjeffers@deskmedia.com>
Date: Sun, 12 Sep 1999 10:51:00 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-39170-1999.09.12-10.58.11--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Below is the contents of the DCD state machine's EEPROM set if up as a
define. Please note that this may not be entirely free. Unfortunately I
can't find Eric's original license to go with it, but I recall it being
free for amateur use only.

```
/* N7CL's State Machine Version 2.0 */
byte const state [256] = {
0x01, 0x02, 0x03, 0x04, 0x05, 0x06, 0x07, 0x08,
0x59, 0x0A, 0x0B, 0x0C, 0x0D, 0x0E, 0x0F, 0x00,
0x91, 0x92, 0x93, 0x94, 0x95, 0x96, 0x97, 0x98,
0x99, 0xCA, 0x9B, 0x9C, 0x9D, 0x9E, 0x9F, 0x90,
0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00,
0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00,
0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00,
0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00,
0xC1, 0xC2, 0xC3, 0xC4, 0xC5, 0xC6, 0xC7, 0xC8,
0xC9, 0xCA, 0xCB, 0xCC, 0xCD, 0xCE, 0xCF, 0xC0,
0x92, 0x92, 0x92, 0x93, 0x94, 0x95, 0x96, 0x17,
0x18, 0x19, 0x1C, 0x1D, 0x9E, 0x9F, 0x90, 0x91,
0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00,
```

```
0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00,
0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00,
0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00,
0x01, 0x02, 0x03, 0x04, 0x05, 0x06, 0x07, 0x08,
0x49, 0x0A, 0x0B, 0x0C, 0x0D, 0x0E, 0x0F, 0x00,
0x91, 0x92, 0x93, 0x94, 0x95, 0x96, 0x97, 0x98,
0x99, 0xDA, 0x9B, 0x9C, 0x9D, 0x9E, 0x9F, 0x90,
0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00,
0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00,
0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00,
0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00,
0x92, 0x92, 0x92, 0x93, 0x94, 0x95, 0x96, 0x17,
0x18, 0x19, 0x1C, 0x1D, 0x9E, 0x9F, 0x90, 0x91,
0xD1, 0xD2, 0xD3, 0xD4, 0xD5, 0xD6, 0xD7, 0xD8,
0xD9, 0xDA, 0xDB, 0xDC, 0xDD, 0xDE, 0xDF, 0xD0,
0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00,
0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00,
0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00,
0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00
};

Here is how I'm accessing that data (note: This appears to yeild a
high-going pulse stream when DCD should be asserted. I'm guessing there are
either timming issues or it needs some rudimentary 'debounce')

/* IO Assignment */
#define         CLK     pin_b0
#define NRZI    pin_b1
#define DCD_OUT pin_b2
main (void)
{
byte i,j;
bit clock_state,old_clock_state;

for ( ; ; )
        {
        do {            /* Timming loop */
        old_clock_state = clock_state;
        clock_state = input(CLK);
        } while ( 1 == clock_state && 0 == old_clock_state );

        if (input(NRZI))
                j  |= 0x80;     /* If NRZI is high then set high bit */
                else
                j &= 0x7F;      /* If low then clear high bit */

        i = state[j];           /* Retrieve state from memory */

        if ( i & 0x80)
                {
                /* High bit set, DCD is false */
                output_low(DCD_OUT);
                } else {
                /* High bit is unset, DCD is true */
                output_high(DCD_OUT);
                }
        j = i;
        }
}

-Jim

---
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```

37. [picsig] [Fwd: Not directly APRS related yet]

From: Jeff King <jeff@aerodata.net>
Date: Sun, 12 Sep 1999 16:50:18 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-39223-1999.09.12-16.01.36--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Saw this on APRSSIG, and thought it might be of interest
to the folks here.

-Jeff

-------- Original Message --------

From: "Dave VanHorn" <dvanhorn@cedar.net>
Subject: [aprssig] Not directly APRS related yet
To: "TAPR APRS Special Interest Group" <aprssig@lists.tapr.org>

Everyone is aware of PIC microcontrollers.

Not everyone is aware of the Atmel AVR chips.

The Atmel AVR8515 is my personal chip of choice.
It has a uart with baud rate generator, two timers, 32 registers (no pages!), 512 bytes of ram, 512 bytes of eeprom, and 4kwords of program memory. It also has hardware SPI, and an analog comparator.
It is completely electrically erasable and programmable, and unlike the PIC, you can't "lock your keys in the chip", a secured AVR is still erasable, and reverts to the programmable state on erasure.
It operates from 2.7 to 6V, and gets roughly a mips per MHz.
All you need to get started is a chip, you can program it with your PC paralell port.
The simulator and assembler are free from www.atmel.com The ICE, if you get serious, is $200, and is one hell of a deal.

I have released version 2.0 of my "getting started" code for the AVR8515. This is a small RTOS, with drivers for serial I/O, VFD and LCD displays, eight channels of RC servo outputs, Text to Morse output, stepper motor output, and a bunch more bits. Everything is interrupt driven, in a cooperative multitasking approach.

It's sitting on my bench now, with eight servos swinging in different patterns, a stepper motor running, the VFD and LCD displays both scrolling different text in different directions, and spitting out "quick brown fox" messages at 9600 baud. The random number generator decides what message it's sending simultaneously in morse from 3 to >150 WPM, and I still have pins and plenty of CPU horsepower left over (and about half the ram and rom!)

The APRS part? I'm hoping that some of you will pick this up, and run with it, and make some APRS goodies. I'd like to, but not having time or protocol documentation...

If this is interesting, email me for a zip file. I'll even sell you the chips in onesies.

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

38. [picsig] Hello

From: "Dave VanHorn" <dvanhorn@cedar.net>
Date: Sun, 12 Sep 1999 17:28:30 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-39231-1999.09.12-17.40.43--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I just signed on, though I must admit, I'm not a PIC person. In fact, I sold my Picmaster this spring due to inactivity. You won't get my TinyIce without a fight though :)

"Failure is NOT an option! It's part of the operating system!"
Where's dave? Try http://www.aprs.net:8000/kc6ete-9

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39. [picsig] Re: DCD on PIC-E

From: Tim Salo <salo@networkcs.com>
Date: Sun, 12 Sep 1999 18:09:28 -0500 (CDT)
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-39234-1999.09.12-18.20.19--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> Date: Sat, 11 Sep 1999 15:02:15 -0400
> From: Jeff King <jeff@aerodata.net>
> Subject: [picsig] Re: DCD on PIC-E
>   [...]
> I'd assumed TXD would either be a 0x55 or 0xAA as both sequences are

> commonly used to train modems as they have the most transitions.
>   [...]

0x55 and 0xAA are the _same_ sequence, namely alternating ones and
zeros. The difference occurs at the receiver. Because the receiver
doesn't have byte sync, the receiver will see either 0x55 or 0xAA
depending on whether the receiver starts gathering up bits for a byte
on an "even" bit or an "odd" bit. One of the things a flag character
does is to provide byte synchronization for the receiver. That is,
a flag allows a receiver to determine where in the bit stream the
character boundaries are.

Software (or hardware) needs to take this into account.

Whether all of this is applicable to DCD is another matter.

(I will save my argument that the AX.25 spec actually indicates that
flags are the appropriate character for this purpose for another
e-mail message...)

-tjs

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40. [picsig] Re: DCD on PIC-E

From: "Brian B. Riley" <brianbr@macconnect.com>
Date: Sun, 12 Sep 1999 19:37:20 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-39237-1999.09.12-18.48.00--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On 9/12/99 3:24 AM, Jeff King (jeff@aerodata.net) passed this wisdom:

>As I said, assuming a single frame. I know it would be a mistake for
>generallized
>packet, but in this specific case we were talking about single frame
>transmissions
>(such as from APRS). I don't believe APRS transmissions span more then one
>frame.
>
>I agree, multi-frames it would be a mistake. But maybe the whole software DCD
>idea is a mistake the more I think about it.

 But what about a digipeater in a busy hearing position. If it
accumulates two or three frames from different users before it can get to
transmit will it make a multi-frame transmission or will it keydown and
keyup for each different user. If it doesn't do multi-frame for multiple
single users it surely should in the interests of efficiency alone.

Brian B. Riley --> http://members.macconnect.com/~brianbr
  For PGP Keys <mailto:brianbr@wulfden.org?subject=Get%20PGP%20Key>

 "He's mad that trusts in the tameness of a wolf ... or a whore's oath."
    -- SHAKESPEARE, "King Lear," III, 6

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41. [picsig] Re: DCD on PIC-E (off topic at first)

From: Jeff King <jeff@aerodata.net>
Date: Sun, 12 Sep 1999 20:20:08 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-39241-1999.09.12-19.31.14--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Tim Salo wrote:

> > I'd assumed TXD would either be a 0x55 or 0xAA as both sequences are
> > commonly used to train modems as they have the most transitions.
> >   [...]
>
> 0x55 and 0xAA are the _same_ sequence, namely alternating ones and
> zeros.

Yes, that is what I said. Your confusing software and hardware issues.
TXD, even though it is a bit stream, is more for the convenience of the
hardware then the software. And I'm also talking about baseband
modulation (not modified by NRZI). Or if you want, feed NRZI
a NRZ 0x00 and you'll get the same effect.

For example, if you had a data slicer, that used a sample and hold to
grab the set (slice) point, you would train in on the 0x55/AA sequence
then set it as soon as it saw a FLAG. Then, throughout the frame, it
would be at the most optimal point even though there might not
be a equal number of 1's or 0's in the frame.

Check out Tom McDermott's book "Wireless Digital Communications:
Design and Theory. It has extensive discussions on data slicers and the
need to eliminate DC bias effects, or at least take them into consideration.

Also, upon looking at it just now, I see a discussion of the
state machine and clock recovery circuit of the TNC2 (upon which
the TAPR state machine DCD circuit is based). This is on
page 210

> The difference occurs at the receiver. Because the receiver
> doesn't have byte sync,

Your not concerned with that at this point, your concerned about
setting your data slicer, in the case of a direct FSK modem for
example. Thats why 0x55 or 0xAA are common training sync
sequences in over the air protocols in other services (such as
RKE's) that need to worry about DC bias shift. Also commonly
used is data randomizers (shift registers feeding back on themselves)
such as used in the K9NG modem to help minimize DC bias in the
data.

> Whether all of this is applicable to DCD is another matter.

Its not directly, and even less so being we are discussing audio
and not baseband modems.

> (I will save my argument that the AX.25 spec actually indicates that
> flags are the appropriate character for this purpose for another
> e-mail message...)

Don't argue, just cite the part of the spec. I've already stated I
couldn't find it, and Byon said he has found over the air use of
differing TXD sequences. Hence, its all FUBAR even if TXD is
specifically defined in spec since its apparently not being followed
by everyone the same.

I think James in on the right path anyways, at least as far as the
discussion of determining incoming data. (a digital PLL). What
he is doing (revising the TAPR state machine) will detect data
even if the flags are missed. Its a clock recovery circuit and
the assumption is that random noise won't have a 1200bps
clock embedded in it (which NRZI does).

73

Jeff

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42. [picsig] Re: DCD on PIC-E

From: Jeff King <jeff@aerodata.net>
Date: Sun, 12 Sep 1999 20:28:44 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-39242-1999.09.12-19.39.44--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

"Brian B. Riley" wrote:

> >I agree, multi-frames it would be a mistake. But maybe the whole software DCD
> >idea is a mistake the more I think about it.
>
> But what about a digipeater in a busy hearing position.

Your right, flags are a poor choice for DCD, even in the artificial
scenario I cited. I was just thinking out loud on the SIG.

Now that we have that out of the way, any thoughts on the clock
recovery/TAPR state machine thing James is working on?

-Jeff

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43. [picsig] Re: DCD on PIC-E

From: "Byon Garrabrant" <byon@mail.com>
Date: Sun, 12 Sep 1999 18:00:52 -0700
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-39243-1999.09.12-20.12.58--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On 12 Sep 99, at 20:28, Jeff King wrote:

> Now that we have that out of the way, any thoughts on the clock
> recovery/TAPR state machine thing James is working on?

Well, I'm about to go read Tom's page 210, but my current thought
is still just monitor the data from the 614 for, say 16/1200 sec or
32/1200 sec. If all pre-NRZI similar bit streams are > 0.5/1200 sec
and < 7.5/1200 sec, assert DCD, else clear DCD. Maybe with a
bit of hysteresis in there for good measure.

It could happen! :)

This could likely become a DCC hallway discussion topic.

Byon

_____
 Byon Garrabrant   N6BG   byon@mail.com

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44. [picsig] Re: DCD State Engine (continued)

From: "Byon Garrabrant" <byon@mail.com>
Date: Sun, 12 Sep 1999 18:28:05 -0700
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-39250-1999.09.12-20.40.14--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On 12 Sep 99, at 10:51, James Jefferson wrote:

> Here is how I'm accessing that data (note: This appears to yeild a
> high-going pulse stream when DCD should be asserted. I'm guessing there
> are either timming issues or it needs some rudimentary 'debounce')
>
...
> do {   /* Timming loop */
> old_clock_state = clock_state;
> clock_state = input(CLK);
> } while (1 == clock_state && 0 == old_clock_state);

What is the function of this loop? To wait for a clock to rise? If so
it should be coded:
   } while (!(1 == clock_state && 0 == old_clock_state));
Perhaps this is the cause of the pulse???

Continuing to read through and understand this code....

Byon

_____
 Byon Garrabrant   N6BG   byon@mail.com

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45. [picsig] TXD chars (was PIC-E DCD

From: Jeff King <jeff@aerodata.net>
Date: Sun, 12 Sep 1999 21:38:07 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-39251-1999.09.12-20.49.51--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Byon:

Having a conversation with a fellow off list, and needed a clarification

Byon Garrabrant wrote:

> Here is some sample decoded data from two packet bursts. The
> first recorded off the air, as repeated by N7ZEV-2

Which had lots of 0x00 has the post NRZI TXD char's? (everything
before the first 0x7E flag)

And of course, 0x00 encoded (over the air) to NRZI is either a
0x55 or 0xAA. Then this would be the TXD sequence used for this
particular TNC.

> The second sample sends many (22?) flag bytes, and then the
> data. (from your TNC)

Meaning, that 0x7E was used as the TXD string for this particular
TNC. (which I think you said was a Kantronics)

BTW, did you ever find the make of N7ZEV's tnc?

73

Jeff

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46. [picsig] Re: DCD on PIC-E

From: James Jefferson <jjeffers@deskmedia.com>
Date: Sun, 12 Sep 1999 21:08:25 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-39265-1999.09.12-21.15.44--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>This could likely become a DCC hallway discussion topic.

Hallway discussion? I was planning on all you guys helping me get this
working... I'm comming fully decked out and ready to code for DCC. I'm
arriving at about 10:30AM on Friday and staying until early Sunday morning.
Should be plently of time to get DCD working right. Plus we should have
easy access to all the old CNC / DCC proceedings.

Jeff, are you comming down to DCC? Were you there last year?

For all those of you who I haven't meet before - I'm the 15 year-old...
Enough hints already =)

-James Jefferson KB0THN

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47. [picsig] Re: DCD State Engine (continued)

From: James Jefferson <jjeffers@deskmedia.com>
Date: Sun, 12 Sep 1999 21:19:54 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>

Message-ID: <LYR6890-39275-1999.09.12-21.27.07--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

```
>What is the function of this loop?  To wait for a clock to rise?  If so
>it should be coded:
>   } while (!( 1 == clock_state && 0 == old_clock_state ));
Yep.
>Perhaps this is the cause of the pulse???

I figured out what the pulse means. It means that the PLL is intermitely
loosing lock. (Re-reading the paper pointed that out - also discovered that
my scope's chanel B probe died) A good DCD should result in a solid high or
low output, whereas no DCD will result in the pulse stream.

This afternoon I took a couple hour break from this web design junk and
revisited the DCD stuff. When I replaced the above clock code with a simple
delay_us(26) (32 X 1200 clock delay) I sometimes get a perfect lock, but
most of the time it fails. It appears to be a timming issue. Real Soon Now
I will try Byon's snipplet and see if that fixes the problem.

-----------------

I've never used MPLAB... Can someone simulate the program and see if the
10MHz PIC is running fast enough to accomplish everything? Based on the
design of the state engine I believe it will work with a 8X or even 1X
clock signal. Perhaps that is the next step I should try? Or possibly I
should use the external counter or interrupt... Do any of the 12-bit, 8 pin
pics have interrupts?

Would a scan of the TAPR DCD kit be helpful? Anyone from TAPR mind if I
post it?



-James Jefferson KB0THN
jjeffers@deskmedia.com
http://www.deskmedia.com/~jjeffers/

---
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```

48. [picsig] Re: DCD State Engine (continued)

From: Jeff King <jeff@aerodata.net>
Date: Sun, 12 Sep 1999 22:22:34 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-39278-1999.09.12-21.33.40--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

James Jefferson wrote:

> Here is how I'm accessing that data (note: This appears to yeild a
> high-going pulse stream when DCD should be asserted. I'm guessing there are
> either timming issues or it needs some rudimentary 'debounce')

I did some digging and came up with a schematic for E. Gustafson's "DCD
upgrade" which uses the State Machine Eprom in question (dated 11/30/88).

It also will give you a pulse stream out on sync. This is then feed to a
74HC14 buffer into a R/C decay circuit (a diode is across the R to
charge the C instantly). This would be your "debounce" you mentioned
above.

So, you appear to have solved it. What you can do now for your R/C
is to use a timer overflow IRQ. Like this:

First the IRQ function

```
#INT_RTCC    // TIMER0 (TMR0/RTCC) overflow
reset_dcd()
    {
    /* High bit set, DCD is false */
    output_low(DCD_OUT);    // Turn off DCD after timeout
    DISABLE_INTERRUPTS(INT_RTCC);   // You only need timeout once
    }
```

Now your modified existing routine:

```
       if ( i & 0x80)
```

```
                {
                /* High bit set, DCD is false */
                // Do nothing, timer0 continues to run, reset handled in
INT_RTCC
                } else {
                /* High bit is unset, DCD is true */
                output_high(DCD_OUT);  // As before
                set_rtcc(0);   // Sets TMR0 to 0  (overflow on 256)
                ENABLE_INTERRUPTS(INT_RTCC);   // Enables overflow IRQ on TMR0
                }
        j = i;


-Jeff




>
>
> /* IO Assignment */
> #define         CLK     pin_b0
> #define NRZI    pin_b1
> #define DCD_OUT pin_b2
> main (void)
> {
> byte i,j;
> bit clock_state,old_clock_state;
>
> for ( ; ; )
>         {
>         do {            /* Timming loop */
>         old_clock_state = clock_state;
>         clock_state = input(CLK);
>         } while ( 1 == clock_state && 0 == old_clock_state );
>
>         if (input(NRZI))
>                 j  |= 0x80;     /* If NRZI is high then set high bit */
>                 else
>                 j &= 0x7F;      /* If low then clear high bit */
>
>         i = state[j];           /* Retrieve state from memory */
>
>         if ( i & 0x80)
>                 {
>                 /* High bit set, DCD is false */
>                 output_low(DCD_OUT);
>                 } else {
>                 /* High bit is unset, DCD is true */
>                 output_high(DCD_OUT);
>                 }
>         j = i;
>         }
> }
>
> -Jim
>
> ---
> You are currently subscribed to picsig as: jeff@aerodata.net
> To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org


---
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```

49. [picsig] Re: DCD State Engine (continued)

From: "Byon Garrabrant" <byon@mail.com>
Date: Sun, 12 Sep 1999 19:24:27 -0700
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-39279-1999.09.12-21.36.31--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On 12 Sep 99, at 10:51, James Jefferson wrote:

> Below is the contents of the DCD state machine's EEPROM set if up as a
> define. Please note that this may not be entirely free. Unfortunately I

> can't find Eric's original license to go with it, but I recall it being
> free for amateur use only.

I am having a heck of a time understanding this table. Are you
sure it is correct Jim? The way I see it, if you consider the state to
be 2 nibbles, states with a high nibble of 2,3,6,7,A,B,E,F never
occur. States with a high nibble of 0 or 8, and a portion of 5 and C
are the only ones which represent valid DCD. However, once you
leave states 0 and 8, you can never get back.

I must be missing something, can anyone clue me in???

Here's a simpler version of the table.

Byon

==========

```
   0  1  2  3  4  5  6  7  8  9  A  B  C  D  E  F
0 01 02 03 04 05 06 07 08 59 0A 0B 0C 0D 0E 0F 00
1 91 92 93 94 95 96 97 98 99 CA 9B 9C 9D 9E 9F 90

2 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
3 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00

4 C1 C2 C3 C4 C5 C6 C7 C8 C9 CA CB CC CD CE CF C0
5 92 92 92 93 94 95 96 17 18 19 1C 1D 9E 9F 90 91

6 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
7 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00

8 01 02 03 04 05 06 07 08 49 0A 0B 0C 0D 0E 0F 00
9 91 92 93 94 95 96 97 98 99 DA 9B 9C 9D 9E 9F 90

A 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
B 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00

C 92 92 92 93 94 95 96 17 18 19 1C 1D 9E 9F 90 91
D D1 D2 D3 D4 D5 D6 D7 D8 D9 DA DB DC DD DE DF D0

E 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
F 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
```


_____
 Byon Garrabrant   N6BG   byon@mail.com

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50. [picsig] Re: DCD State Engine (continued)

From: James Jefferson <jjeffers@deskmedia.com>
Date: Sun, 12 Sep 1999 21:49:02 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-39284-1999.09.12-21.56.33--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>I am having a heck of a time understanding this table. Are you
>sure it is correct Jim?
It is a direct read from a TAPR DCD kit EEPROM...

The paper that I attached earlier today in "DCD State Engine (Long Paper
Included)" explains what each state means. I doubt I could do a better job.
=) Prior to receiving that paper the paper the only thought that I had was
this actual C comment: /* Blagic Magic to follow */

Most of this PLL stuff has gone right over my head - looks like I have some
reading to do. Hopefully "The Art of Electronics" has something useful.
Anybody else have any recommendations?

-James Jefferson

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51. [picsig] GPS-E-2 Longitude error

From: Andy White <adw@ohm.york.ac.uk>
Date: Mon, 13 Sep 1999 11:14:20 +0100
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-39331-1999.09.13-05.14.10--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi

I wonder if anyone can help me with a problem I have with a TAPR PIC-E board I have just built and have programmed with the GPS-E-2 code. The problems are: first, my longitude is 001.03XXX but when the data from the pic-e is decoded on my TNC it is shown as 091.03XXX degrees. When I put my GPS into simulator mode and set the longitude to say 005.03XXX the data is shown OK. If I set it to 011.03XXX the date is incorrect again. It seams to be something to do with the "1" in the degrees area, is this a known bug, can I do anything about it?

The second problem is the callsign that appears in the first part of the data sent from the pic-e.
ie. G7AUP > YYYYY,RELAY,RELAY,WIDE
I assume that YYYYY should be APRS, but it appears as US50V or US30V and it seems to change dependant on the location data.

Any help or suggestions gratefully received.

Andy (G7AUP)

==========
Andy White Tel +44 1904 432336
Chief Technician Electronics Research Workshop Fax +44 1904 433225/
Department of Electronics 432335
University of York Dept.
http://www.york.ac.uk/depts/elec/
Heslington, York, YO10 5DD http://www-users.york.ac.uk/~adw4
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52. [picsig] Re: GPS-E-2 Longitude error

From: John Hansen <hansen@fredonia.edu>
Date: Mon, 13 Sep 1999 07:33:46 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Cc: adw@ohm.york.ac.uk
Message-ID: <LYR6890-39342-1999.09.13-06.44.20--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 11:14 AM 9/13/99 +0100, you wrote:
>Hi
>
> I wonder if anyone can help me with a problem I have with a TAPR PIC-E
>board I have just built and have programmed with the GPS-E-2 code.
>The problems are: first, my longitude is 001.03XXX but when the data from
>the pic-e is decoded on my TNC it is shown as 091.03XXX degrees.
>When I put my GPS into simulator mode and set the longitude to say
>005.03XXX the data is shown OK. If I set it to 011.03XXX the date is
>incorrect again. It seams to be something to do with the "1" in the
>degrees area, is this a known bug, can I do anything about it?

This is an error which I have now fixed. It only affected positions within 10 degrees of 0 longitude, but of course, that would include you. There is a new version of the code which has not yet been posted to the TAPR ftp site. I'll upload it to the upload area today. In the meantime, if you can handle binary attachments, I could
e-mail you a copy of it. Let me know.

>The second problem is the callsign that appears in the first part of the
>data sent from the pic-e.
>ie. G7AUP > YYYYY,RELAY,RELAY,WIDE
>I assume that YYYYY should be APRS, but it appears as US50V or US30V and it
>seems to change dependant on the location data.

This is the way it is supposed to be. It's part of the compressed data encoding used by the MIC-E protocol. See the MIC-E manual on the TAPR website for more information.

John, W2FS

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53. [picsig] RE: [Fwd: Not directly APRS related yet]

From: "Sissom, Jay D" <jsissom@indiana.edu>
Date: Mon, 13 Sep 1999 11:35:10 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-39382-1999.09.13-11.46.48--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I totally agree that the Atmel AVR chips are wonderful! They have small chips that compete directly with PIC chips but seem to be much more powerful. The 8515 is a 40 pin DIP but as you can see below has quite a lot of resources. If that isn't enough for you, they have the mega103 and mega603 chips which have 64K or 128K of FLASH program memory, 4K or 8K of EEPROM and SRAM. There is an eval kit for this chip also. I've used the 8515 eval board in an embedded design because it was cheaper to buy the eval kit then to design and build a circuit board!

You can even get a FREE C compiler for it that runs on Windows or Linux....

We should probably take discussions about this chip off this list, but I was so impressed with them, I had to speak up.

73
Jay
KA9OKT

-----Original Message-----
From: Jeff King [mailto:jeff@aerodata.net]
Sent: Sunday, September 12, 1999 3:50 PM
To: TAPR PIC Development Special Interest Group
Subject: [picsig] [Fwd: Not directly APRS related yet]

Saw this on APRSSIG, and thought it might be of interest
to the folks here.

-Jeff

-------- Original Message --------
From: "Dave VanHorn" <dvanhorn@cedar.net>
Subject: [aprssig] Not directly APRS related yet
To: "TAPR APRS Special Interest Group" <aprssig@lists.tapr.org>

Everyone is aware of PIC microcontrollers.

Not everyone is aware of the Atmel AVR chips.

The Atmel AVR8515 is my personal chip of choice.
It has a uart with baud rate generator, two timers, 32 registers (no pages!), 512 bytes of ram, 512 bytes of eeprom, and 4kwords of program memory. It also has hardware SPI, and an analog comparator.
It is completely electrically erasable and programmable, and unlike the PIC, you can't "lock your keys in the chip", a secured AVR is still erasable, and reverts to the programmable state on erasure.
It operates from 2.7 to 6V, and gets roughly a mips per MHz.
All you need to get started is a chip, you can program it with your PC paralell port.
The simulator and assembler are free from www.atmel.com The ICE, if you get serious, is $200, and is one hell of a deal.

I have released version 2.0 of my "getting started" code for the AVR8515. This is a small RTOS, with drivers for serial I/O, VFD and LCD displays, eight channels of RC servo outputs, Text to Morse output, stepper motor output, and a bunch more bits. Everything is interrupt driven, in a cooperative multitasking approach.

It's sitting on my bench now, with eight servos swinging in different patterns, a stepper motor running, the VFD and LCD displays both scrolling different text in different directions, and spitting out "quick brown fox" messages at 9600 baud. The random number generator decides what message it's sending simultaneously in morse from 3 to >150 WPM, and I still have

pins and plenty of CPU horsepower left over (and about half the ram and
rom!)

The APRS part? I'm hoping that some of you will pick this up, and run with
it, and make some APRS goodies. I'd like to, but not having time or protocol
documentation...

If this is interesting, email me for a zip file. I'll even sell you the
chips in onesies.

You are currently subscribed to picsig as: jsissom@exchange.indiana.edu
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

---
You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

54. [picsig] Re: DCD State Engine (continued)

From: "Sissom, Jay D" <jsissom@indiana.edu>
Date: Mon, 13 Sep 1999 11:55:02 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-39389-1999.09.13-12.06.14--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Thank you all very much for responding to my innocent question. It's like
drinking from a fire hose though, so I've saved all your messages and will
try to understand them.

It sounds like it is possible to do this in software but it will take a
little work.

Too bad I can't make it to the DCC this year (I have another conference to
attend on the same days). Maybe next year.

73
Jay
KA9OKT

-----Original Message-----
From: James Jefferson [mailto:jjeffers@deskmedia.com]
Sent: Sunday, September 12, 1999 9:49 PM
To: TAPR PIC Development Special Interest Group
Subject: [picsig] Re: DCD State Engine (continued)

>I am having a heck of a time understanding this table. Are you
>sure it is correct Jim?
It is a direct read from a TAPR DCD kit EEPROM...

The paper that I attached earlier today in "DCD State Engine (Long Paper
Included)" explains what each state means. I doubt I could do a better job.
=) Prior to receiving that paper the paper the only thought that I had was
this actual C comment: /* Blagic Magic to follow */

Most of this PLL stuff has gone right over my head - looks like I have some
reading to do. Hopefully "The Art of Electronics" has something useful.
Anybody else have any recommendations?

-James Jefferson

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---
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55. [picsig] RE: [Fwd: Not directly APRS related yet]

From: "Steven R. Bible" <srbible@gate.net>
Date: Mon, 13 Sep 1999 13:16:26 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-39398-1999.09.13-12.31.01--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Jay,

Don't you dare take this [Atmel] discussion off! If I have to, I'll change
the name of the list. Just because it is called PICSIG, does not mean that
any microcontroller can't be discussed.

- Steve, N7HPR

----- Original Message -----
From: Sissom, Jay D <jsissom@indiana.edu>
To: TAPR PIC Development Special Interest Group <picsig@lists.tapr.org>
Sent: Monday, September 13, 1999 12:35 PM
Subject: [picsig] RE: [Fwd: Not directly APRS related yet]

> I totally agree that the Atmel AVR chips are wonderful! They have small
> chips that compete directly with PIC chips but seem to be much more
> powerful. The 8515 is a 40 pin DIP but as you can see below has quite a
lot
> of resources. If that isn't enough for you, they have the mega103 and
> mega603 chips which have 64K or 128K of FLASH program memory, 4K or 8K of
> EEPROM and SRAM. There is an eval kit for this chip also. I've used the
> 8515 eval board in an embedded design because it was cheaper to buy the
eval
> kit then to design and build a circuit board!
>
> You can even get a FREE C compiler for it that runs on Windows or
Linux....
>
> We should probably take discussions about this chip off this list, but I
was
> so impressed with them, I had to speak up.
>
> 73
> Jay
> KA9OKT
>
> -----Original Message-----
> From: Jeff King [mailto:jeff@aerodata.net]
> Sent: Sunday, September 12, 1999 3:50 PM
> To: TAPR PIC Development Special Interest Group
> Subject: [picsig] [Fwd: Not directly APRS related yet]
>
>
> Saw this on APRSSIG, and thought it might be of interest
> to the folks here.
>
> -Jeff
>
> -------- Original Message --------
> From: "Dave VanHorn" <dvanhorn@cedar.net>
> Subject: [aprssig] Not directly APRS related yet
> To: "TAPR APRS Special Interest Group" <aprssig@lists.tapr.org>
>
> Everyone is aware of PIC microcontrollers.
>
> Not everyone is aware of the Atmel AVR chips.
>
> The Atmel AVR8515 is my personal chip of choice.
> It has a uart with baud rate generator, two timers, 32 registers (no
> pages!), 512 bytes of ram, 512 bytes of eeprom, and 4kwords of program
> memory. It also has hardware SPI, and an analog comparator.
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> you can't "lock your keys in the chip", a secured AVR is still erasable,
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> It operates from 2.7 to 6V, and gets roughly a mips per MHz.
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> paralell port.
> The simulator and assembler are free from www.atmel.com The ICE, if you
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> serious, is $200, and is one hell of a deal.
>
> I have released version 2.0 of my "getting started" code for the AVR8515.
> This is a small RTOS, with drivers for serial I/O, VFD and LCD displays,
> eight channels of RC servo outputs, Text to Morse output, stepper motor
> output, and a bunch more bits. Everything is interrupt driven, in a
> cooperative multitasking approach.
>

> It's sitting on my bench now, with eight servos swinging in different
> patterns, a stepper motor running, the VFD and LCD displays both scrolling
> different text in different directions, and spitting out "quick brown fox"
> messages at 9600 baud. The random number generator decides what message
> it's sending simultaneously in morse from 3 to >150 WPM, and I still have
> pins and plenty of CPU horsepower left over (and about half the ram and
> rom!)
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> The APRS part? I'm hoping that some of you will pick this up, and run
with
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> If this is interesting, email me for a zip file. I'll even sell you the
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56. [picsig] What's the status

From: "Dave VanHorn" <dvanhorn@cedar.net>
Date: Mon, 13 Sep 1999 12:46:24 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-39401-1999.09.13-13.01.13--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Is there an archive somewhere so a newbie (me) can come up to speed quickly?
This might work out to be more fun than I thought, I used to work protocol
engines for credit card transactions. $Billions and $Billions served :)

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

57. [picsig] RE: [Fwd: Not directly APRS related yet]

From: "Sissom, Jay D" <jsissom@indiana.edu>
Date: Mon, 13 Sep 1999 13:08:38 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-39404-1999.09.13-13.19.35--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Great! I've purchased a few of the $20 GPS engines
(http://mavin.com/slickitems.html) and that's why I bought the MFJ Data
radio. I want a 1 box tracker. I am planning to use the 8515 chip as the
processor to tie it all together. Some features that I would like it to
have:

- Just plug in 12V, GPS antenna and 2m antenna and it's a tracker
- A 20x2 LCD display with a few buttons so you can change the call sign,
path and that stuff without needing a laptop

optional:
Design the modem so it can do satellite or non-satellite APRS just by
changing a setting... This would require modifying the radio a bit, but
it's possible.

I'm not sure if the PIC could do all this, but I'm sure the 8515 could do it
with bytes to spare. I could also do it in C which would take much less
time to write! The built in EEPROM can hold all the parameters between
uses. I'm sure there would be enough space left over on the chip to have a
few sensors plugged into it and have it transmit the values of the sensors
periodically.

It sure would be nice to discuss 8515 specific things with people.

By the way, if you are interested in these chips, here's a few URL's:

http://www.avr-forum.com/   (AVR resources)
http://www.atmel.com/atmel/products/prod23.htm (Atmel resources for the
chips)
http://medo.fov.uni-mb.si/mapp/ (GNU C compiler for Linux)
http://members.xoom.com/volkeroth/index_e.htm (GNU C compiler for Windows)

I can't find the URL, but someone has a TCP/IP stack for this chip too.
Really cool stuff!

73
Jay
KA9OKT

-----Original Message-----
From: Steven R. Bible [mailto:srbible@gate.net]
Sent: Monday, September 13, 1999 12:16 PM
To: TAPR PIC Development Special Interest Group
Subject: [picsig] RE: [Fwd: Not directly APRS related yet]

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Sent: Monday, September 13, 1999 12:35 PM
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58. [picsig] more DCD PLL update

From: James Jefferson <jjeffers@deskmedia.com>
Date: Mon, 13 Sep 1999 16:11:31 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-39422-1999.09.13-16.19.10--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Here is an update from the work I did this morning:

By using the clock code which Byon fixed the thing will fairly reliably
lock on a signal. I'm using a 10 MHZ PIC clock to keep up with the 32X 1200
signal comming from the TNC.

When the PLL locks the output becomes solid. When the PLL is unlocked then
a pulse stream is seen. (Note: Reading "The Art of Electronics" really
clarified some things for me.) Feeding this output from the PIC through the
logic of TAPR's DCD board creates a solid DCD of the opposite polarity.

Now the question is: How can this pulse stream be turned into a solid
state, the opposite of the DCD's state? I don't understand why, but Jeff's
code didn't work. I'm about to figure out the MPLAB simulator, maybe that
will explain some things.

Here is the code that locks properly:

```
/* 13 September 1999    PLL apears to be locking correctly now  */
/*                      Byon's clock change detect code fixed   */
/*                      that weirdness                          */

#device PIC16F84
#include <16F84.h>
#FUSES HS,NOPROTECT,NOWDT,PUT
#use delay(clock=10000000)
typedef short bit;
#use standard_io(A)
#use standard_io(B)

/* IO Assignment */
#define CLK     pin_b0
#define NRZI    pin_b1
#define DCD_OUT pin_b2

(SNIP ... STATE 2.0 TABLE CUT)


main (void)
{
byte i,j;
bit clock_state,old_clock_state;

for ( ; ; )
        {
        do {            /* Timming loop - relies on external 16X or 32X */
        old_clock_state = clock_state;
        clock_state = input(CLK);
        } while (!( 1 == clock_state && 0 == old_clock_state ));

        if (input(NRZI))
                j  |= 0x80;     /* If NRZI is high then set high bit */
                else
                j &= 0x7F;      /* If low then clear high bit */

        i = state[j];           /* Retrieve state from memory */

        if ( i & 0x80 )
                {
                /* High bit set, DCD is false */
                output_low(DCD_OUT);
                } else {
                /* High bit is unset, DCD is true */
                output_high(DCD_OUT);
                }
        j = i;  /* load for next cycle */
        }

}
```

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59. [picsig] Re: DCD State Engine (continued)

From: Jeff King <jeff@aerodata.net>
Date: Mon, 13 Sep 1999 18:34:08 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-39432-1999.09.13-17.45.02--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hiya:

I cheated and looked at the schematic

Byon Garrabrant wrote:

> On 12 Sep 99, at 10:51, James Jefferson wrote:
>
> > Here is how I'm accessing that data (note: This appears to yeild a
> > high-going pulse stream when DCD should be asserted. I'm guessing there
> > are either timming issues or it needs some rudimentary 'debounce')
> >
> ...
> > do {   /* Timming loop */
> > old_clock_state = clock_state;
> > clock_state = input(CLK);
> > } while (1 == clock_state && 0 == old_clock_state);
>
> What is the function of this loop? To wait for a clock to rise? If so
> it should be coded:
>   } while (!(1 == clock_state && 0 == old_clock_state));
> Perhaps this is the cause of the pulse???

I looked at the data sheet on the 74HC374,
http://www.fairchildsemi.com/ds/MM/MM74HC374.pdf
and it is a octal latch that clocks data through on the rising
edge of the clock pulse. So you are right Byon.

-Jeff

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60. [picsig] Re: more DCD PLL update

From: Jeff King <jeff@aerodata.net>
Date: Mon, 13 Sep 1999 18:46:30 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-39435-1999.09.13-17.56.49--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

James Jefferson wrote:

> Now the question is: How can this pulse stream be turned into a solid
> state, the opposite of the DCD's state? I don't understand why, but Jeff's
> code didn't work.

Because the code was written to work with what described BEFORE
you did the Byon latch clocking fix. Previous, you stated you had a pulse
train during DCD and a solid state during non-DCD conditions. Now your
stating, after Byon's fix, is your getting a pulse train during non-DCD
conditions and steady state during DCD conditions. Maybe it just
needs more work? Although it does appear to be emulating a lock
condition from a standard XOR PLL circuit (reading The Art of
Electronics as well).

You didn't attach any code as to how you tried to implement
 (using the timer as a psedo R/C time constant). If you
would attach the code, I could tell you more.

The code I attached was supposed to emulate the function of R5
(220K), C2 (0.47uf) and D1 (1N4148). The function of this
R/C network was to give you some "hang time" for your DCD or
to fill any glitches between the output of the digital PLL.

So anyways, show me how tried to do it. Implementing interupts,
if you have never done it before, can be tricky. Maybe some
"time in" function as opposed to a "time out" I earlier described
to you.

-Jeff

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61. [picsig] Re: more DCD PLL update

From: James Jefferson <jjeffers@deskmedia.com>
Date: Mon, 13 Sep 1999 18:41:06 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>

Cc: jeff@aerodata.net
Message-ID: <LYR6890-39443-1999.09.13-18.48.38--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>you did the Byon latch clocking fix. Previous, you stated you had a pulse
>train during DCD and a solid state during non-DCD conditions. Now your

Sorry ... memory problem. I stated that from my work over a month ago on it
... after a while any code that I've written looks pretty foreign.

The current situation is when DCD: solid output. No DCD: pulse output.

If some scope captures of the pulse output would help anyone, then let me
know.

>You didn't attach any code as to how you tried to implement
> (using the timer as a psedo R/C time constant). If you
>would attach the code, I could tell you more.
(sheepish smile) Guilty as charged... Code at bottom of message.

>So anyways, show me how tried to do it. Implementing interupts,
>if you have never done it before, can be tricky. Maybe some
>"time in" function as opposed to a "time out" I earlier described
>to you.

I've done a little bit of interrupt work before, but I'm not too good with
it. compounding the problem is that I lent my compiler manual and PIC
programmer to a friend... =)

BTW: The testing setup that I'm using is a AEA PK-88. I'm stealing the NRZI
stream and 32X clock out of it. The TNC contains the TAPR DCD kit, so I can
look at that output on channel B of the scope.

Thanks,

-James

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/*                      Byon's clock change detect code fixed   */
/*                      that weirdness                          */

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#include <16F84.h>
#FUSES HS,NOPROTECT,NOWDT,PUT
#use delay(clock=10000000)
typedef short bit;
#use standard_io(A)
#use standard_io(B)

/* IO Assignment */
#define CLK     pin_b0
#define NRZI    pin_b1
#define DCD_OUT pin_b2

#include <state2.h>     /* Eric's State Machine 2.0 has been moved out */

#INT_RTCC    // TIMER0 (TMR0/RTCC) overflow
reset_dcd()
    {
    /* High bit set, DCD is false */
    output_low(DCD_OUT);    // Turn off DCD after timeout
    DISABLE_INTERRUPTS(INT_RTCC);   // You only need timeout once
    }

main (void)
{
byte i,j;
bit clock_state,old_clock_state;

ENABLE_INTERRUPTS(INT_RTCC);   // Enables overflow IRQ on TMR0

for ( ; ; )
        {
        do {            /* Timming loop - relies on external 16X or 32X */
        old_clock_state = clock_state;
        clock_state = input(CLK);
        } while (!( 1 == clock_state && 0 == old_clock_state ));

        if (input(NRZI))
                j  |= 0x80;     /* If NRZI is high then set high bit */
```

```
                else
                j &= 0x7F;      /* If low then clear high bit */

        i = state[j];           /* Retrieve state from memory */

       if ( i & 0x80)
                {
                /* High bit set, DCD is false */
                // Do nothing, timer0 continues to run, reset handled in
INT_RTCC
                } else {
                /* High bit is unset, DCD is true */
                output_high(DCD_OUT);  // As before
                set_rtcc(0);   // Sets TMR0 to 0  (overflow on 256)
                ENABLE_INTERRUPTS(INT_RTCC);   // Enables overflow IRQ on TMR0
                }
        j = i;
        }
}



---
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```

62. [picsig] Re: more DCD PLL update

From: Jeff King <jeff@aerodata.net>
Date: Mon, 13 Sep 1999 21:23:06 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Cc: TAPR PIC Development Special Interest Group <picsig@lists.tapr.org>
Message-ID: <LYR6890-39457-1999.09.13-20.34.01--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi:

James Jefferson wrote:

>
> If some scope captures of the pulse output would help anyone, then let me
> know.

It would, at least getting some timing measurements of duration of the pulses
and how often they repeat. Also, on DCD does it EVER pulse at all, or is it
dead solid? I'm basically approaching this as a hardware guy, which might
be a mistake.

> I've done a little bit of interrupt work before, but I'm not too good with
> it. compounding the problem is that I lent my compiler manual and PIC
> programmer to a friend... =)

I think (if you have PCW) most of the help files are in there. You'd be well
advised to have the PIC databook at close hand as well.

> BTW: The testing setup that I'm using is a AEA PK-88. I'm stealing the NRZI
> stream and 32X clock out of it. The TNC contains the TAPR DCD kit, so I can
> look at that output on channel B of the scope.

Tell me what is coming out of pin 19 of the EPROM on the TAPR kit. In theory,
it should look like your present output on the PIC.

OK, I'll add/modify you code below with comments. Please note I'm not
saying your underlying base code is correctly, just a way to make it do what you
want. I'd check the behavior of your hardware TAPR DCD state first to
make sure it is similar to your PIC implementation.

-Jeff

```
/* 13 September 1999    PLL apears to be locking correctly now  */
/*                      Byon's clock change detect code fixed   */
/*                      that weirdness                          */

#device PIC16F84
#include <16F84.h>
#FUSES HS,NOPROTECT,NOWDT,PUT
#use delay(clock=10000000)               //WKA each cycle 400ns
typedef short bit;
```

```
#use fast_io(A)                         //WKA less overhead with fast_io
#use fast_io(B)

/* IO Assignment */
#define CLK     pin_b0
#define NRZI    pin_b1
#define DCD_OUT pin_b2

#define TRUE  1
#define FALSE 0

#include <state2.h>     /* Eric's State Machine 2.0 has been moved out */


#INT_RTCC    // TIMER0 (TMR0/RTCC) overflow
set_dcd()         // No pulses for 'x' amount of time, DCD must be true
    {
    output_high(DCD_OUT);    // Turn on DCD after timeout
    DISABLE_INTERRUPTS(INT_RTCC);   // You only need timeout once
     rtcc_irq_on = FALSE;
    }

main (void)
{
byte i,j;
bit clock_state,old_clock_state;
bit rtcc_irq_on = 0;

set_tris_a(0xFF);        // All inputs
set_tris_b(0xFB);        // pin_b2 output, rest inputs


/* the following will determine your DCD delay, that is, how long a
period with no pulsing that you will go to solid DCD. The overflow
with div_128 is 400ns*256*128 = 13.107 ms. You can preload
rtcc with something other then 0, or change DIV for different values.
Use as low a value as possible  */

setup_counters(RTCC_INTERNAL, RTCC_DIV_128);

ENABLE_INTERRUPTS(INT_RTCC);   // Enables overflow IRQ on TMR0
ENABLE_INTERRUPTS(GLOBAL);    //WKA Without this, INT_RTCC won't work

for ( ; ; )
        {
        do {            /* Timming loop - relies on external 16X or 32X */
        old_clock_state = clock_state;
        clock_state = input(CLK);
        } while (!( 1 == clock_state && 0 == old_clock_state ));

        if (input(NRZI))
                j  |= 0x80;     /* If NRZI is high then set high bit */
                else
                j &= 0x7F;      /* If low then clear high bit */

        i = state[j];           /* Retrieve state from memory */

       if ( i & 0x80 )        // Only goes here if DCD false. else handle in IRQ
                {
                /* High bit set, DCD is false */    // Never goes here if DCD
valid?
                output_low(DCD_OUT);
                set_rtcc(0);            // Reset the counter

                if (!rtcc_irq_on)           //
                    {
                    enable_interrupts(INT_RTCC);
                    rtcc_irq_on = TRUE;
                    }
                }
        j = i;  /* load for next cycle */
        }

}


---
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```

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63. [picsig] Re: more DCD PLL update

From: James Jefferson <jjeffers@deskmedia.com>
Date: Mon, 13 Sep 1999 21:34:56 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Cc: picsig@lists.tapr.org
Message-ID: <LYR6890-39469-1999.09.13-21.42.51--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>It would, at least getting some timing measurements of duration of the pulses
>and how often they repeat. Also, on DCD does it EVER pulse at all, or is it
>dead solid? I'm basically approaching this as a hardware guy, which might
>be a mistake.

DCD is DEAD solid. Never blinks when DCD is good.

>I think (if you have PCW) most of the help files are in there. You'd be well
>advised to have the PIC databook at close hand as well.

PCM. I wish CCS had a student discount.

>Tell me what is coming out of pin 19 of the EPROM on the TAPR kit. In theory,
>it should look like your present output on the PIC.

It is IDENTICAL. I can put the PIC on one scope input and the TAPR kit on
the other and they will line up (save a little bit of voltage difference).

I'm about to go down and try the code... I'll let you know in a few minutes.

-James Jefferson

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64. [picsig] Re: more DCD PLL update

From: Jeff King <jeff@aerodata.net>
Date: Mon, 13 Sep 1999 23:17:53 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Cc: picsig@lists.tapr.org
Message-ID: <LYR6890-39472-1999.09.13-22.28.25--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

James Jefferson wrote:

> >It would, at least getting some timing measurements of duration of the pulses
> >and how often they repeat. Also, on DCD does it EVER pulse at all, or is it
> >dead solid? I'm basically approaching this as a hardware guy, which might
> >be a mistake.
>
> DCD is DEAD solid. Never blinks when DCD is good.

OK, is it a one (+5V) or zero (+0V) when DCD is good? My old notes
(from 10 years ago) showed a +5V coming out of pin 19 when DCD
was good/asserted. Which is confusing because I thought it would be
the other way around.

Hey, what does the waveform on the junction of C1 and Q2 look like?
I'm just wondering if C2/R5 have any influence at all in this, or I may be
barking up the wrong tree.... you know, I am.

Its C1(0.1uf) / R3(470K) we need
to emulate in software. When Pin 19 (O7) of the EPROM goes LOW
(no DCD), then it instantly turns on Q2, which charges C1 to +5V. If
Pin 19/O7 goes high (DCD on), then Q2 is turned off, and C1 slowly
discharges through R3 (470K). This gives us instant on DCD with
some hang time. . So the timing routine I sent you still needs a little work,
but its on the right track. Think about that some more, and if you want me
to look at it again, I can.

The R/C time constant of R3(470K) and C1(0.1uf) is
~47ms.... but since the switch point (I think) HC parts is 50% of Vcc,
your time constant will be somewhat less then this (as its discharging).
This is going to be your hang time.

Also, once you get this proved out on a 16F84, you should be able
to make a counter loop for your software R/C delay and not have
to have a timer onboard. Then either a 12C508 or 16C505 (which

s cheaper) will work for you.

-Jeff

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65. [picsig] PIC DCD PLL STATE 2.0 Thingy works!!!!

From: James Jefferson <jjeffers@deskmedia.com>
Date: Mon, 13 Sep 1999 22:56:17 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-39477-1999.09.13-23.04.37--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hello everyone! Thanks to lots of help from Eric N7CL, Jeff King, Byon, and various others the PIC DCD PLL STATE 2.0 Thingy (How's PDPS2T for an acronym?) is mostly working. It needs some hang time after loosing lock and quite a bit of testing before I would consider it done.

I've done the testing / debugging by stealing the NRZI data and 32X clock out of a AEA PK-88. I've tested the following code at both 2 MHz clock and 4 MHz clock. 4MHz seems to have a few 'glitches' after DCD drops, but 2MHz doesn't always lock (misses clock transitions?).

Here is the code dirrectly out of my development directory. Below is what I call state2.c and below that is state2.h which is the state machine logic.

Once I get a chance to test it more I will write up some sort of decent documentation for it. Don't post in the PSR until then! =)

An exhausted but elated, James Jefferson KB0THN

```
/* 13 September 1999    PLL apears to be locking correctly now  */
/*                      Byon's clock change detect code fixed   */
/*                      that weirdness                          */
/* 13 September 1999    Jeff's debounce code works, but the     */
/*                      polarity of the high-bit-checking had   */
/*                      to be inverted                          */
/*                      Also needs hang time after DCD drops    */

#device PIC16F84
#include <16F84.h>
#FUSES HS,NOPROTECT,NOWDT,PUT
typedef short bit;

#use fast_io(A)                         //WKA less overhead with fast_io
#use fast_io(B)

/* IO Assignment */
#define CLK     pin_b0
#define NRZI    pin_b1
#define DCD_OUT pin_b2

bit rtcc_irq_on = 0;

#include <state2.h>     /* Eric's State Machine 2.0 has been moved out */


#INT_RTCC    // TIMER0 (TMR0/RTCC) overflow
set_dcd()         // No pulses for 'x' amount of time, DCD must be true
    {
    output_high(DCD_OUT);    // Turn on DCD after timeout
    DISABLE_INTERRUPTS(INT_RTCC);   // You only need timeout once
     rtcc_irq_on = FALSE;
    }

main (void)
{
byte i,j;
bit clock_state,old_clock_state;

set_tris_a(0xFF);        // All inputs
set_tris_b(0xFB);        // pin_b2 output, rest inputs
```

```
/* the following will determine your DCD delay, that is, how long a
period with no pulsing that you will go to solid DCD. The overflow

400ns*256*128 = 13.107 ms       (10 MHz clock)
400ns*256*256 = 26.214 ms       (10 MHz clock)

1000ns*256*256 = 65.536 ms      (4 MHz clock)   WORKS!
1000ns*256*128 = 32.768 ms      (4 MHz clock)

2000ns*256*256 = 131.072 ms     (2 MHz clock)   WORKS!
2000ns*256*128 = 65.536 ms      (2 MHz clock)   NOT TESTED


You can preload rtcc with something other then 0, or change DIV for
different values. Use as low a value as possible  */

setup_counters(RTCC_INTERNAL, RTCC_DIV_256);

ENABLE_INTERRUPTS(INT_RTCC);   // Enables overflow IRQ on TMR0
ENABLE_INTERRUPTS(GLOBAL);    //WKA Without this, INT_RTCC won't work

for ( ; ; )
        {
        do {            /* Timming loop - relies on external 16X or 32X */
        old_clock_state = clock_state;
        clock_state = input(CLK);
        } while (!( 1 == clock_state && 0 == old_clock_state ));

        if (input(NRZI))
                j  |= 0x80;     /* If NRZI is high then set high bit */
                else
                j &= 0x7F;      /* If low then clear high bit */

        i = state[j];           /* Retrieve state from memory */

       if ( !(i & 0x80) )
       // THN reversed the polarity of above...
       // Only goes here if DCD false. else handle in IRQ
                {
                /* High bit set, DCD is false */    // Never goes here if
DCD valid?
                output_low(DCD_OUT);
                set_rtcc(0);            // Reset the counter

                if (!rtcc_irq_on)
                    {
                    enable_interrupts(INT_RTCC);
                    rtcc_irq_on = TRUE;
                    }
                }
        j = i;  /* load for next cycle */
        }

}

-----------

/* N7CL's State Machine Version 2.0 */
byte const state [256] = {
0x01, 0x02, 0x03, 0x04, 0x05, 0x06, 0x07, 0x08,
0x59, 0x0A, 0x0B, 0x0C, 0x0D, 0x0E, 0x0F, 0x00,
0x91, 0x92, 0x93, 0x94, 0x95, 0x96, 0x97, 0x98,
0x99, 0xCA, 0x9B, 0x9C, 0x9D, 0x9E, 0x9F, 0x90,
0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00,
0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00,
0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00,
0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00,
0xC1, 0xC2, 0xC3, 0xC4, 0xC5, 0xC6, 0xC7, 0xC8,
0xC9, 0xCA, 0xCB, 0xCC, 0xCD, 0xCE, 0xCF, 0xC0,
0x92, 0x92, 0x92, 0x93, 0x94, 0x95, 0x96, 0x17,
0x18, 0x19, 0x1C, 0x1D, 0x9E, 0x9F, 0x90, 0x91,
0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00,
0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00,
0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00,
0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00,
0x01, 0x02, 0x03, 0x04, 0x05, 0x06, 0x07, 0x08,
0x49, 0x0A, 0x0B, 0x0C, 0x0D, 0x0E, 0x0F, 0x00,
0x91, 0x92, 0x93, 0x94, 0x95, 0x96, 0x97, 0x98,
```

```
0x99, 0xDA, 0x9B, 0x9C, 0x9D, 0x9E, 0x9F, 0x90,
0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00,
0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00,
0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00,
0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00,
0x92, 0x92, 0x92, 0x93, 0x94, 0x95, 0x96, 0x17,
0x18, 0x19, 0x1C, 0x1D, 0x9E, 0x9F, 0x90, 0x91,
0xD1, 0xD2, 0xD3, 0xD4, 0xD5, 0xD6, 0xD7, 0xD8,
0xD9, 0xDA, 0xDB, 0xDC, 0xDD, 0xDE, 0xDF, 0xD0,
0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00,
0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00,
0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00,
0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00
};


---
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66. [picsig] How can I help?

From: "Dave VanHorn" <dvanhorn@cedar.net>
Date: Tue, 14 Sep 1999 00:07:49 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-39497-1999.09.14-00.24.37--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Have Dataline monitor, four channel DSO with screen save to disk,
Spectrum analyzer for Frac Hz through 5MHz. (Other toys, maybe applicable)
No pic tools. I'm an AVR guy :)

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67. [picsig] Re: Interfacing with the AISIN GPS from Electro-Mavin

From: "Sims, Mike" <msims@invensysappliance.com>
Date: Wed, 15 Sep 1999 12:45:15 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-39715-1999.09.15-11.57.11--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi All,

Havent seen this topic in a while, and thought I would drop a note to see if
anyone was doing anything interesting with this GPS.

I spent some time and now have an integrated display unit that takes data
directly from the GPS Engine (unit inside metal enclosure). It uses the
PIC16F84 and a 2x16 LCD display (similar to those available on
www.mpja.com).

I will have to do some cleanup on the source before I would feel good about
distributing it, but I could give out the binary and schematics. My next
phase of this project would be to have it also output a NMEA string, but
this will take some investigation. I'll have to work on a web page or
something....

Has anyone done any work to make this unit compatible with the PIC-E?

73,

Mike Sims
KA9KIM

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68. [picsig] Re: Interfacing with the AISIN GPS from Electro-Mavi n

From: "Sissom, Jay D" <jsissom@indiana.edu>
Date: Wed, 15 Sep 1999 13:05:50 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-39727-1999.09.15-13.16.50--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I haven't started yet, but will be working on it. I just got my GPS'
yesterday. My plan is a stand-alone tracker that includes everything except
the antennas and power supply.

I would be interested in seeing your code as I'm sure others would.

73
Jay
KA9OKT

-----Original Message-----
From: Sims, Mike [mailto:msims@invensysappliance.com]
Sent: Wednesday, September 15, 1999 11:45 AM
To: TAPR PIC Development Special Interest Group
Subject: [picsig] Re: Interfacing with the AISIN GPS from Electro-Mavin

Hi All,

Havent seen this topic in a while, and thought I would drop a note to see if
anyone was doing anything interesting with this GPS.

I spent some time and now have an integrated display unit that takes data
directly from the GPS Engine (unit inside metal enclosure). It uses the
PIC16F84 and a 2x16 LCD display (similar to those available on
www.mpja.com).

I will have to do some cleanup on the source before I would feel good about
distributing it, but I could give out the binary and schematics. My next
phase of this project would be to have it also output a NMEA string, but
this will take some investigation. I'll have to work on a web page or
something....

Has anyone done any work to make this unit compatible with the PIC-E?

73,

Mike Sims
KA9KIM

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69. [picsig] Re: Interfacing with the AISIN GPS from Electro-Mavin

From: "George S. Pappayliou" <AA8MA@worldnet.att.net>
Date: Wed, 15 Sep 1999 20:17:50 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-39765-1999.09.15-19.52.06--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Bill-
    I would be interested. Sorry it took so long to get back to you but my
wife downloaded this email and I didn't read it until tonight.

Tnx es 73s george

HSHK wrote:

> I have some 8051 code to convert the data into two
> NMEA strings if you're interested, but using the data
> directly would probably be easier.
>
> Bill
>
> 73 OM ES GL SK DE KA8VIT (di-dit)
>
> On Sat, 4 Sep 1999 20:59:26, you wrote:
>
> >   I just bought a cheap ($20) gps from Electro-Mavin. It works ok but
> >ouputs the data in somesort of hex format that is not NMEA
> >
> >   Has anyone written anything for the PIC-E that would allow it to
> >recognize data from this GPS for the purpose of generating APRS packets?
> >

> >Thanks, George W3GP
> >
> >---
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>
> ---
> You are currently subscribed to picsig as: aa8ma@worldnet.att.net
> To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

---
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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

70. [picsig] Re: Interfacing with the AISIN GPS from Electro-Mavin

From: "George S. Pappayliou" <AA8MA@worldnet.att.net>
Date: Wed, 15 Sep 1999 20:27:26 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-39766-1999.09.15-20.01.43--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Mike-
    I would defnately be interested. I'm not a programming genius and any help I can get would be greatly appreciated.

Tnx es 73s George

"Sims, Mike" wrote:

> Hi All,
>
> Havent seen this topic in a while, and thought I would drop a note to see if
> anyone was doing anything interesting with this GPS.
>
> I spent some time and now have an integrated display unit that takes data
> directly from the GPS Engine (unit inside metal enclosure). It uses the
> PIC16F84 and a 2x16 LCD display (similar to those available on
> www.mpja.com).
>
> I will have to do some cleanup on the source before I would feel good about
> distributing it, but I could give out the binary and schematics. My next
> phase of this project would be to have it also output a NMEA string, but
> this will take some investigation. I'll have to work on a web page or
> something....
>
> Has anyone done any work to make this unit compatible with the PIC-E?
>
> 73,
>
> Mike Sims
> KA9KIM
>
> ---
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> To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

---
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71. [picsig] Re: Interfacing with the AISIN GPS from Electro-Mavi n

From: "George S. Pappayliou" <AA8MA@worldnet.att.net>
Date: Wed, 15 Sep 1999 20:28:57 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-39767-1999.09.15-20.03.14--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Jay-
    Pls keep me advised as you progress with your plan. That's why Ibought this GPS.

Tnx George

"Sissom, Jay D" wrote:

> I haven't started yet, but will be working on it. I just got my GPS'
> yesterday. My plan is a stand-alone tracker that includes everything except

> the antennas and power supply.
>
> I would be interested in seeing your code as I'm sure others would.
>
> 73
> Jay
> KA9OKT
>
> -----Original Message-----
> From: Sims, Mike [mailto:msims@invensysappliance.com]
> Sent: Wednesday, September 15, 1999 11:45 AM
> To: TAPR PIC Development Special Interest Group
> Subject: [picsig] Re: Interfacing with the AISIN GPS from Electro-Mavin
>
> Hi All,
>
> Havent seen this topic in a while, and thought I would drop a note to see if
> anyone was doing anything interesting with this GPS.
>
> I spent some time and now have an integrated display unit that takes data
> directly from the GPS Engine (unit inside metal enclosure). It uses the
> PIC16F84 and a 2x16 LCD display (similar to those available on
> www.mpja.com).
>
> I will have to do some cleanup on the source before I would feel good about
> distributing it, but I could give out the binary and schematics. My next
> phase of this project would be to have it also output a NMEA string, but
> this will take some investigation. I'll have to work on a web page or
> something....
>
> Has anyone done any work to make this unit compatible with the PIC-E?
>
> 73,
>
> Mike Sims
> KA9KIM
>
> ---
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72. [picsig] Re: Interfacing with the AISIN GPS from Electro-Mavin

From: "James E. Gutshall" <gutshall@pcu.net>
Date: Wed, 15 Sep 1999 22:19:46 -0600
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-39805-1999.09.15-23.45.36--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I would like to say AMEN too . I think there are lots of us who would like
to see your schematics and code.

-----Original Message-----
From: Sims, Mike <msims@invensysappliance.com>
To: TAPR PIC Development Special Interest Group <picsig@lists.tapr.org>
Date: Wednesday, September 15, 1999 10:54 AM
Subject: [picsig] Re: Interfacing with the AISIN GPS from Electro-Mavin

>Hi All,
>
>Havent seen this topic in a while, and thought I would drop a note to see
if
>anyone was doing anything interesting with this GPS.
>
>I spent some time and now have an integrated display unit that takes data
>directly from the GPS Engine (unit inside metal enclosure). It uses the
>PIC16F84 and a 2x16 LCD display (similar to those available on
>www.mpja.com).
>
>I will have to do some cleanup on the source before I would feel good about

>distributing it, but I could give out the binary and schematics. My next
>phase of this project would be to have it also output a NMEA string, but
>this will take some investigation. I'll have to work on a web page or
>something....
>
>Has anyone done any work to make this unit compatible with the PIC-E?
>
>73,
>
>Mike Sims
>KA9KIM
>
>---
>You are currently subscribed to picsig as: gutshall@pcu.net
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73. [picsig] Re: Interfacing with the AISIN GPS from Electro-Mavin

From: "Sims, Mike" <msims@invensysappliance.com>
Date: Thu, 16 Sep 1999 08:51:07 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-39867-1999.09.16-08.02.20--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi again,

I spent about a minute putting together a page that described some of the
details of the Aisin GPS Display Module. I need to put the PIC Binary Code
up there yet, then follow this with some source, but that will have to wait
for another day....

The address of the site I put the article on is:
http://k8daa.ampr.org/~ka9kim/gps_disp.html .

73,

Mike
KA9KIM

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74. [picsig] RTS

From: "Frank Stanley" <frank@stantech-elec.com>
Date: Fri, 17 Sep 1999 13:25:15 +0100
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-40074-1999.09.17-07.39.22--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I am new to this list so pardon me if the point has been covered or ever worse don't make sense!!.
I have been working with PICs a long time but new to packet data. I am also dabbling in the Palm Pilot
and hopefully soon in the new Visor from Handspring.

Re the PIC-E. It's not clear to me how the PIC16F84 handles RTS/CTC hand shake for TX and RX. Or is this
 done on the MX614?
Any ideas?
TIA
frank_

75. [picsig] Re: RTS

From: John Hansen <hansen@fredonia.edu>
Date: Fri, 17 Sep 1999 09:02:36 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-40081-1999.09.17-08.09.05--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 01:25 PM 9/17/99 +0100, you wrote:
>I am new to this list so pardon me if the point has been covered or ever
>worse don't make sense!!.
>I have been working with PICs a long time but new to packet data. I am
>also dabbling in the Palm Pilot and hopefully soon in the new Visor from
>Handspring.

>
>Re the PIC-E. It's not clear to me how the PIC16F84 handles RTS/CTC hand
>shake for TX and RX. Or is this done on the MX614?
>Any ideas?
>TIA
>frank_

It doesn't. It was originally designed to take a serial data stream and
pick stuff out of it. For that purpose there was no particular need for
flow control. However, it seems to me that this would be relatively easy
to implement. You do need a free pin or two. RB6 and RB7 could be used...
though check the data sheet for tips on how to use them for both I/) pins
and in circuit programming. Or you could sacrifice some other
functionality of the unit (depending on your application) and use other pins.

73, John W2FS

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76. [picsig] New PIC-E 'ware

From: "Mike Berg" <mikeberg@midstate.tds.net>
Date: Sat, 18 Sep 1999 15:09:26 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-40279-1999.09.18-15.19.40--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

There's a new program for the PIC-E in the software directory named
RX_RLY10.ASM. It's both a packet monitor and a digipeater.
The monitor mode outputs upto 46 bytes of received packets via serial
and the digi mode relays compressed MIC-E/PIC-E position packets
much like a tnc would.
The rx_rly10.txt file explains in detail configuration and use of the
program.
Tho I wrote this code myself, there are tidbits of Byon's code within.
Once again, thanks, Byon N6BG for the CRC routine in particular.
I'll be curious how well it works for others.
73 Mike N0QBH

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77. [picsig] Re: New PIC-E 'ware

From: "Brian B. Riley" <brianbr@macconnect.com>
Date: Sun, 19 Sep 1999 11:58:38 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-40446-1999.09.19-11.10.18--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On 9/18/99 4:09 PM, Mike Berg (mikeberg@midstate.tds.net) passed this
wisdom:

>There's a new program for the PIC-E in the software directory named
>RX_RLY10.ASM. It's both a packet monitor and a digipeater.
>The monitor mode outputs upto 46 bytes of received packets via serial
>and the digi mode relays compressed MIC-E/PIC-E position packets
>much like a tnc would.
>The rx_rly10.txt file explains in detail configuration and use of the
>program.
>Tho I wrote this code myself, there are tidbits of Byon's code within.
>Once again, thanks, Byon N6BG for the CRC routine in particular.
>I'll be curious how well it works for others.

That is awesome. It means for about $20 bucks worth of parts and an old
HT we could put a porta-digi togther that would make Bill Nolle's
beautiful creations look awkward and cumbersome!

    what does the digi respond to? RELAY, WIDE, or WIDE & RELAY ???

    what about WIDEN and WIDEN-N ??

73 de brian, ka2bqe

Brian B. Riley --> http://members.macconnect.com/~brianbr

For PGP Keys <mailto:brianbr@wulfden.org?subject=Get%20PGP%20Key>

"Frisbeetarianism, n.: The belief that when you die, your soul goes
up on the roof and gets stuck." -- author unknown

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78. [picsig] Re: New PIC-E 'ware

From: "Dave VanHorn" <dvanhorn@cedar.net>
Date: Sun, 19 Sep 1999 11:09:55 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-40448-1999.09.19-11.25.02--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> That is awesome. It means for about $20 bucks worth of parts and an old
> HT we could put a porta-digi togther that would make Bill Nolle's
> beautiful creations look awkward and cumbersome!

I've got PIC code to drive a motorola synthesizer, which would do the
transmit side, and could do the rx side as well, since it's a half-duplex
operation.

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79. [picsig] Re: New PIC-E 'ware

From: James Jefferson <jjeffers@deskmedia.com>
Date: Sun, 19 Sep 1999 11:48:18 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-40452-1999.09.19-11.56.01--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>I've got PIC code to drive a motorola synthesizer (snip)

That would be very cool ... can you elaborate a little?

-James Jefferson KB0THN
jjeffers@deskmedia.com
http://www.deskmedia.com/~jjeffers/

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80. [picsig] Re: New PIC-E 'ware

From: "Dave VanHorn" <dvanhorn@cedar.net>
Date: Sun, 19 Sep 1999 12:42:55 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-40471-1999.09.19-12.57.51--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> >I've got PIC code to drive a motorola synthesizer (snip)
>
> That would be very cool ... can you elaborate a little?

It's from a project I did a while back on an F84, it controls a National
LMX1501 PLL to any 5 kHz channel in the 2 meter band. For this app, it could
be hardcoded, or it could be useful to sometimes listen on other
frequencies. (sorry, I mis-spoke, I looked at the code, and it's a national
part)

It could act as both the transmitter exciter and the receive first IF, since
it takes only a moment to switch channels. That would be mostly dependent on
the loop filter design.
They also have duals, that would eliminate any switchover time at all.

I think it would be very interesting to do a radio that had the ability to
talk and listen on 2M at 1200, and 440 at 9600.   Someone proposed something

like this previously on APRSSIG, to listen on 2M for normal traffic, but if
a high speed 440 freq is available (known by an announcement on the 2M net)
then go up there, and get a bigger, faster feed.

The radio part of the design would be used in both the trackers, and small
digis.
Larger digis would, I imagine, use fixed rigs on the appropriate channels,
so as to gain full bandwidth operation on both freqs.

This sort of ability, AFAIK is not available, except maybe with the D7, and
some fun control software. That might be a way to prove the concept.

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81. [picsig] PIC-e

From: "Frank Stanley" <frank@stantech-elec.com>
Date: Mon, 20 Sep 1999 09:38:14 +0100
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-40610-1999.09.20-05.35.35--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Another stupid question?? maybe!

Looking at the asm files and docs I understand the PIC-E can be configured for packet sending or packet receiving. Is there any reason why I cannot combine the two tasks and add flow control?

Has anyone had success at this? Is easy?

TIA
frank stanley

82. [picsig] Re: PIC DCD PLL STATE 2.0 Thingy works!!!!

From: "Chris Scarr" <Chris.Scarr@eskom.co.za>
Date: Mon, 20 Sep 1999 11:57:33 +0200
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-40678-1999.09.20-12.13.03--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hello all

Wading through old PICSIG email notes I came across the 1k2 telemetry module announcement.   I had a look at the web site given back then, but found no code there.   James - was this one discontinued - I would really like to play around with the concept, but am far behind you chaps as far as coding goes...
  (in fact, I haven't even gotten off the ground yet!)

Please let me know if any more detail is available.

Regards
Chris Scarr
ZS2AAW

PS:
We have a fairly widespread repeater network out here in the Eastern Cape, SA, and maybe this would be the ideal way of keeping track of some parameters on each repeater site via some basic telemetry.   Some are many hours' travel away...

Many thanks for access to this SIG - has been very interesting

---
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83. [picsig] Power Supply Problem

From: John Hansen <hansen@fredonia.edu>
Date: Mon, 20 Sep 1999 22:07:35 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-40752-1999.09.20-21.21.08--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Anyone have any thoughts on the following? I'm running a PIC-E into one of
the Kantronics 2 watt 144.39 transmitters. Both the PIC-E and the
Kantronics transmitter test fine when run separately.   However, if I run
them off different power supplies, but hook the ground together for the two
boards (to make the audio connection to the transmitter), the audio output
of the PIC-E drops by about 50%. If I run them off the same power supply
(with both ground and 12 volts connected to both boards) the audio output
drops to zero. Any ideas on what might be causing this or how to fix it?

Thanks,

John

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84. [picsig] Re: Power Supply Problem

From: Doug Bade <doug@clecom.com>
Date: Mon, 20 Sep 1999 22:50:28 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-40758-1999.09.20-21.56.25--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 10:07 PM 9/20/99 -0400, you wrote:
>Anyone have any thoughts on the following? I'm running a PIC-E into one of
>the Kantronics 2 watt 144.39 transmitters. Both the PIC-E and the
>Kantronics transmitter test fine when run separately.   However, if I run
>them off different power supplies, but hook the ground together for the two
>boards (to make the audio connection to the transmitter), the audio output
>of the PIC-E drops by about 50%. If I run them off the same power supply
>(with both ground and 12 volts connected to both boards) the audio output
>drops to zero. Any ideas on what might be causing this or how to fix it?
>
>Thanks,
>
>John
>
>
>---
>You are currently subscribed to picsig as: doug@clecom.com
>To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

I do not have my pic e handy, but is the output cap polarized, and is there
a reverse bias on it or worse is the dc from mic high backing up directly
into the modem output? I had problems with MFJ's that did not like mic hi
dc bias on the output. equalizing ground may be reversing floating bias
levels. Just a thought.... Doug KB8GVQ

Doug Bade
doug@clecom.com

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85. [picsig] MX614 AFSK output loading (was Power Supply Problem)

From: bj382@scn.org (Hank Riley)
Date: Tue, 21 Sep 1999 23:32:40 -0700 (PDT)
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-41052-1999.09.22-01.40.54--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Speaking with John, it turns out his Kantronics transmitter has
a pretty low input impedance (~ 600 ohms) and the MX614 has output
levels specified into a load of 40K ohms or above, so I believe
most or all of his diminished level problems will disappear with some
buffering of the 614 output.

The buffer stage could be as simple as an emitter follower, or an
opamp could be used.

Hank Riley, N1LTV
h1riley@umassd.edu

   http://www.geocities.com/capecanaveral/3161/hablic.htm
                                                ^
HABLIC: "All balloon launches, all the time" __|

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86. [picsig] PIC-E -- Does it work with the data port

From: smorris@mindspring.com
Date: Sun, 26 Sep 1999 16:42:31 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-41645-1999.09.26-15.51.30--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

New to the SIG.

I have a Kenwood TM-V7A. And want to use the PIC-E as a TNC for APRS. I know the PIC-E works on the microphone connection, I was wondering if it will work connected to the data port connection.

Scott
KF4SNV

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87. [picsig] Re: PIC-E -- Does it work with the data port

From: James Jefferson <jjeffers@deskmedia.com>
Date: Sun, 26 Sep 1999 16:05:55 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-41650-1999.09.26-16.14.06--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>I have a Kenwood TM-V7A. And want to use the PIC-E as a TNC for APRS. I
>know the PIC-E works on the microphone connection, I was wondering if it
>will work connected to the data port connection.

Scott, yep ... it will. Make sure you notice the direction of the 8-pin plug on the diagram before you spend too long puzzling over why it won't work.

Good luck,

-James Jefferson KB0THN

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88. [picsig] PIC-E and Palm APRS

From: "Mike Berg" <mikeberg@midstate.tds.net>
Date: Tue, 28 Sep 1999 06:34:38 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-42029-1999.09.28-06.47.25--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

There's a program I wrote for the PIC-E called PIC_PALM.ZIP located in the PICSIG software directory that turns the PIC-E into a Palm APRS compatible packet decoder. The text file PIC_PALM.TXT contains the cfg and how to use info. It works remarkably well. Monitor the whole network in your hand.

I'd like to hear some comments from the Digital conference attendees. What, if any, changes to the PIC-E platform can we expect? Is there any talk of making room for the Ramtrom memory? Personally, I think that would be the next logical step. I've got some Ramtron samples on the way and am excited to try them out.

73 Mike N0QBH

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89. [picsig] PIC-E kit problem?

From: "Bob Oesterlin" <oester@rconnect.com>
Date: Tue, 28 Sep 1999 06:55:43 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-42033-1999.09.28-07.07.22--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

As the proud owner of a new PIC-E kit from the DCC, I set of building it
last night.
I didn't get to far, when I discovered that the board does NOT have R20, R21
(the
last 2 resistors) on the board. There are no holes or locatiofnfor them
printed on the
board. Did I get a bad board?

Bob N0EST

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90. [picsig] Firecracker X-10 controller

From: John Hansen <hansen@fredonia.edu>
Date: Tue, 28 Sep 1999 09:00:08 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-42091-1999.09.28-08.07.05--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/html

Here's something that appeared on the PIC list that you may have missed
while at the DCC. A company is selling a kit that will control X-10
devices either from a PC or from a hand held controller. The kit
contains an RF transmitter (unspecified freq), RF receiver, PC
interface, and an X-10 appliance module. The cost is $5.90
including shipping (this is one of those limited time offer
things). Perhaps this could be used in conjunction with the
TINI. Anyway, it was so cheap, I had to order one.

The web site is
http://www.x10.com/welcome/firecracker/free_fire_landing1.
<http://www.x10.com/welcome/firecracker/free_fire_landing1.htm>htm

<http://www.x10.com/welcome/firecracker/free_fire_landing1.htm>John, W2FS

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91. [picsig] Re: Firecracker X-10 controller

From: Tim Pozar <pozar@kumr.lns.com>
Date: Tue, 28 Sep 1999 07:38:30 -0700
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-42105-1999.09.28-09.49.38--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Tue, Sep 28, 1999 at 09:00:08AM -0400, John Hansen wrote:
> Here's something that appeared on the PIC list that you may have missed
> while at the DCC. A company is selling a kit that will control X-10
> devices either from a PC or from a hand held controller. The kit
> contains an RF transmitter (unspecified freq), RF receiver, PC
> interface, and an X-10 appliance module. The cost is $5.90
> including shipping (this is one of those limited time offer
> things). Perhaps this could be used in conjunction with the
> TINI. Anyway, it was so cheap, I had to order one.

They do this to get you on their email list. I had one hell of a
time getting off this list. Just doing as directed in the spam
did not do the trick. I had to call the mailling list manager
several times before I was taken off.

Tim
--
  Snail: Tim Pozar / LNS / 1978 45th Ave / San Francisco CA 94116 / USA
               POTS: +1 415 665 3790 Radio: KC6GNJ / KAE6247
"It's a damn poor mind that can only think of one way to spell a word."
                        - Andrew Jackson
"What is wanted is not the will to believe, but the will to find out,
    which is the exact opposite."   - Bertrand Russel

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---
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```

92. [picsig] Re: Firecracker X-10 controller

```
From: Tim Pozar <pozar@kumr.lns.com>
Date: Tue, 28 Sep 1999 07:39:21 -0700
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-42106-1999.09.28-09.51.33--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain
```

```
BTW...

Can folks not use HTML formating for their messages.  It make it very
difficult to read on non-html mail clients.

Thanks...
Tim
--
  Snail: Tim Pozar / LNS / 1978 45th Ave / San Francisco CA 94116 / USA
               POTS: +1 415 665 3790  Radio: KC6GNJ / KAE6247
"It's a damn poor mind that can only think of one way to spell a word."
                        - Andrew Jackson
"What is wanted is not the will to believe, but the will to find out,
    which is the exact opposite."              - Bertrand Russel

---
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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org
```

93. [picsig] "Data" Column in RadCom

```
From: Ian Wade <ian@dowrmain.demon.co.uk>
Date: Tue, 28 Sep 1999 19:43:58 +0100
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-42129-1999.09.28-13.58.08--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain
```

```
Yes, it's true! In this month's RSGB RadCom there's an announcement
saying that yours truly is taking over the "Data" column again, starting
in December.

I need input, lots of it. Please email me (g3nrw@arrl.net) if you have
any points for discussion, any news of groups/individuals/products etc
in the world of amateur radio data comms. Pictures (GIF/JPG) also very
welcome.

Copy date for the December issue is a week tomorrow (Weds 6 October).

73
Ian, G3NRW
--
+-----------------------------------------------------------------+
|  G3NRW on APRS: [IO91SX]                          144.800 MHz   |
|  QTH:   Harlington, Beds, UK   (~55 km/35 miles NNW of London)  |
|  email: g3nrw@arrl.net                                          |
|                                                                 |
|    INTRODUCTION TO APRS: http://www.netro.co.uk/whitepaper.htm  |
+-----------------------------------------------------------------+

---
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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org
```

94. [picsig] 1k2telm board update (formely PIC-E and Palm APRS)

```
From: James Jefferson <jjeffers@deskmedia.com>
Date: Tue, 28 Sep 1999 17:23:06 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-42175-1999.09.28-17.30.55--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain
```

```
>I'd like to hear some comments from the Digital conference attendees.
>What, if any, changes to the PIC-E platform can we expect?  Is there any
>talk of making room for the Ramtrom memory?  Personally, I think that would
>be the next logical step.  I've got some Ramtron samples on the way and am
>excited to try them out.

Mike ... we didn't discuss anything about a new board at DCC. However I've
made a board dubed the 1k2telem board that has two sockets for I2C
```

eeprom/fram parts. I also took care of a few other things that bugged me
about the original PIC-E design. My alpha board is being manufactured right
now and I should have it within a week or two.

You can take a look at http://www.jarviscomputer.com/1k2telem/ and see a
schematic and a board view. People have expressed enough interest in the
project that I'm likely to make a few dozen boards and sell them for a
reasonable price.

I've used my FRAM extensivly and it works great. Somewhere I have some ring
buffer code if anyone is interested. K0NY and I have written most of what
we need to make a 1200 baud KISS TNC, however I haven't had the time to
intergrate it all together. In short order I'm planning on tar'ing up my
src directory and letting you guys take a look at it.

Talk hard,

-James Jefferson KB0THN
jjeffers@deskmedia.com
http://www.deskmedia.com/~jjeffers/

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

95. [picsig] Re: PIC-E kit problem? the PCB

From: Robert Winingham <kc5ejk@onramp.net>
Date: Wed, 29 Sep 1999 01:23:38 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-42240-1999.09.29-01.35.12--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>As the proud owner of a new PIC-E kit from the DCC, I set of building it last night.
>I didn't get to far, when I discovered that the board does NOT have R20, R21
>(the last 2 resistors) on the board. There are no holes or locatiofn for them printed on the board. Did
 I get a bad board?

I was just about to start my PIC-e board and I see the same thing and there is
no place for D10, D11 AND C8

BOARD HAS NUMBER OF LSC-5 94V-0 5098

Several part placements don't match page 3 or 16 May 1999 build manual.
JP4 on my board is above C4 and not above C1 as shown on that page.

Did Bob and I just join the beta team :-)

I'am in digest mode so please cc to my mail address

73

-----   kc5ejk@onramp.net   or kc5ejk@amsat.org   -----

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

96. [picsig] Re: PIC-E kit problem? the PCB

From: Robert Winingham <kc5ejk@onramp.net>
Date: Wed, 29 Sep 1999 02:00:18 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Cc: "Bob Oesterlin" <oester@rconnect.com>
Message-ID: <LYR6890-42241-1999.09.29-02.12.18--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I downloaded the PDF of pic-e_pcb_layout_eval.pdf from
ftp://ftp.tapr.org/picsig/docs/pic-e_pcb_layout_eval.pdf

and that is the board I have . I got mine just before DCC
I guess several old evaluation boards got shipped.

I will Call the TAPR office in the morning.

Thanks to Bob , I had not starting soldering but was
just checking my mail as I warmed up the soldering station.

73

-----   kc5ejk@onramp.net   or kc5ejk@amsat.org   -----

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

97. [picsig] $20 GPS NMEA Converter Now Available

From: "Byon Garrabrant" <byon@mail.com>
Date: Wed, 29 Sep 1999 00:27:17 -0700
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-42243-1999.09.29-02.47.04--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I have created a converter for the Mavin $20 GPS to output the
NMEA-0183 format.

www.byonics.com/gst-2

Byon
_____
 Byon Garrabrant   N6BG   byon@mail.com

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

98. [picsig] Re: PIC-E kit problem? the PCB

From: "Bob Oesterlin" <oester@rconnect.com>
Date: Wed, 29 Sep 1999 06:55:24 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-42256-1999.09.29-07.07.02--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Talked to Steve N7HPR last night - contact the TAPR office and they will
ship you a replacement kit.

Bob N0EST
----- Original Message -----
From: Robert Winingham <kc5ejk@onramp.net>
To: TAPR PIC Development Special Interest Group <picsig@lists.tapr.org>
Cc: Bob Oesterlin <oester@rconnect.com>
Sent: Wednesday, September 29, 1999 2:00 AM
Subject: Re: PIC-E kit problem? the PCB

> I downloaded the PDF of pic-e_pcb_layout_eval.pdf from
> ftp://ftp.tapr.org/picsig/docs/pic-e_pcb_layout_eval.pdf
>
> and that is the board I have . I got mine just before DCC
> I guess several old evaluation boards got shipped.
>
> I will Call the TAPR office in the morning.
>
> Thanks to Bob , I had not starting soldering but was
> just checking my mail as I warmed up the soldering station.
>
> 73
>
>
> -----   kc5ejk@onramp.net   or kc5ejk@amsat.org   -----
>
>

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

99. [picsig] Re: PIC-E kit problem? the PCB

From: "Steven R. Bible" <srbible@gate.net>
Date: Wed, 29 Sep 1999 08:11:50 -0400

To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Cc: <kc5ejk@onramp.net>, "Greg Jones" <wd5ivd@tapr.org>,
        "John Koster" <w9ddd@tapr.org>
Message-ID: <LYR6890-42259-1999.09.29-07.27.18--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> I downloaded the PDF of pic-e_pcb_layout_eval.pdf from
> ftp://ftp.tapr.org/picsig/docs/pic-e_pcb_layout_eval.pdf
>
> and that is the board I have . I got mine just before DCC
> I guess several old evaluation boards got shipped.

No Robert, you did not receive any evaluation boards.

TAPR just ordered 100 new PCBs from the board shop for this latest kitting.
Talking to Bob on the phone last night it appears that we may have received
a bad batch. The trouble is not knowing how many PCBs in the order are good
or bad.

Bob is mailing me his board. I can look at it then and we can in turn get
the board shop to fix the problem.

In the mean time, everyone that recently purchased a PIC-E, take a look at
the PCB and let me know if it is good or bad.

> I will Call the TAPR office in the morning.
>
> Thanks to Bob , I had not starting soldering but was
> just checking my mail as I warmed up the soldering station.

- Steve, N7HPR

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

100. [picsig] Re: PIC-E kit problem? the PCB

From: "Scott Morris" <smorris@mindspring.com>
Date: Wed, 29 Sep 1999 08:52:22 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Cc: <kc5ejk@onramp.net>, "Greg Jones" <wd5ivd@tapr.org>,
        "John Koster" <w9ddd@tapr.org>
Message-ID: <LYR6890-42263-1999.09.29-08.03.53--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Any specific things to look for on the board?

Scott
KF4SNV
----- Original Message -----
From: Steven R. Bible <srbible@gate.net>
To: TAPR PIC Development Special Interest Group <picsig@lists.tapr.org>
Cc: <kc5ejk@onramp.net>; Greg Jones <wd5ivd@tapr.org>; John Koster
<w9ddd@tapr.org>
Sent: Wednesday, September 29, 1999 8:11 AM
Subject: [picsig] Re: PIC-E kit problem? the PCB

> > I downloaded the PDF of pic-e_pcb_layout_eval.pdf from
> > ftp://ftp.tapr.org/picsig/docs/pic-e_pcb_layout_eval.pdf
> >
> > and that is the board I have . I got mine just before DCC
> > I guess several old evaluation boards got shipped.
>
> No Robert, you did not receive any evaluation boards.
>
> TAPR just ordered 100 new PCBs from the board shop for this latest
kitting.
> Talking to Bob on the phone last night it appears that we may have
received
> a bad batch. The trouble is not knowing how many PCBs in the order are
good
> or bad.
>
> Bob is mailing me his board. I can look at it then and we can in turn get
> the board shop to fix the problem.

>
> In the mean time, everyone that recently purchased a PIC-E, take a look at
> the PCB and let me know if it is good or bad.
>
>
> > I will Call the TAPR office in the morning.
> >
> > Thanks to Bob , I had not starting soldering but was
> > just checking my mail as I warmed up the soldering station.
>
>
> - Steve, N7HPR
>
>
>
> ---
> You are currently subscribed to picsig as: smorris@mindspring.com
> To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org
>

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

101. [picsig] BASIC compilers

From: "Horzepa, Stan" <Stan_Horzepa@adc.com>
Date: Wed, 29 Sep 1999 08:07:51 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-42265-1999.09.29-08.20.05--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hello Steve,

My notes are a mess...

What were the two BASIC compilers you told me were available for PIC? Who sells them?

Thanks much,

Stan, WA1LOU

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

102. [picsig] Re: BASIC compilers

From: Doug Bade <doug@clecom.com>
Date: Wed, 29 Sep 1999 09:34:40 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-42269-1999.09.29-08.41.21--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

PicBasic which is a compiler for stamp code into normal pics.. I cannot
remember off the top of my head who writes it, but I will email from office
in a little bit.. 73..Doug KB8GVQ

At 08:07 AM 9/29/99 -0500, you wrote:
>Hello Steve,
>
>My notes are a mess...
>
>What were the two BASIC compilers you told me were available for PIC? Who
>sells them?
>
>Thanks much,
>
>Stan, WA1LOU
>
>---
>You are currently subscribed to picsig as: doug@clecom.com
>To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

Doug Bade
doug@clecom.com

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

103. [picsig] Re: BASIC compilers

From: "Warren A Merkel" <austin@magicnet.net>
Date: Wed, 29 Sep 1999 09:53:18 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-42272-1999.09.29-09.04.04--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> What were the two BASIC compilers you told me were available for PIC?
> Who sells them?

One is PicBasic (compatible to BasicStamp I) or PicBasicPro
(upward compatible with BS-2 including IF/ELSE construct, and
LCD commands, inline Assembly and most PIC level hardware
support)

microEngineering Labs Inc
http://www.melabs.com/mel/pbp.htm

Warren A. Merkel
kd4zdd@amsat.org
Orlando, FL

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

104. [picsig] PIC-E Board Problems

From: "Bob Oesterlin" <oester@rconnect.com>
Date: Wed, 29 Sep 1999 9:50:4
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-42278-1999.09.29-10.01.33--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On my board, R20, R21, C8 are missing - no holes or markings on the board
to indicate they are even present.

Bob N0EST

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

105. [picsig] Re: PIC-E kit problem? the PCB

From: "Steven R. Bible" <srbible@gate.net>
Date: Wed, 29 Sep 1999 11:21:33 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-42280-1999.09.29-10.37.00--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Bob noticed that he did not have holes to mount R20 and R21. That was for
starters. And as we talked on the phone last night, he noticed that one
hole for C8 was also missing. And it appears that the silkscreen was not
outlining the parts. So it sounds like a process error of some sort. After
I can se the board in person I can tell better.

This process error, of course, should not happen. This very same set of
gerber files was used in the first 100 kits. So we know that the PCB is
good.

The reason I asked how many are good and bad is that in the process of
making the PCBs, the board shop replicates the design as many times as will
fit on one large PCB sheet. Say for example, 10 PCBs can be made in one
sheet. And then say (for whatever reason) the design gets mucked on one of
those 10. In an order of 100, that will be 10 bad PCBs. We need to find
out how many are bad to get replacements from the board shop.

So if you recently purchased a PIC-E (even a month prior to DCC), please let
me know if the PCB was good or bad.

Thanks!

- Steve

----- Original Message -----
From: Scott Morris <smorris@mindspring.com>
To: TAPR PIC Development Special Interest Group <picsig@lists.tapr.org>
Cc: <kc5ejk@onramp.net>; Greg Jones <wd5ivd@tapr.org>; John Koster
<w9ddd@tapr.org>
Sent: Wednesday, September 29, 1999 8:52 AM
Subject: [picsig] Re: PIC-E kit problem? the PCB

> Any specific things to look for on the board?
>
> Scott
> KF4SNV
> ----- Original Message -----
> From: Steven R. Bible <srbible@gate.net>
> To: TAPR PIC Development Special Interest Group <picsig@lists.tapr.org>
> Cc: <kc5ejk@onramp.net>; Greg Jones <wd5ivd@tapr.org>; John Koster
> <w9ddd@tapr.org>
> Sent: Wednesday, September 29, 1999 8:11 AM
> Subject: [picsig] Re: PIC-E kit problem? the PCB
>
>
> > > I downloaded the PDF of pic-e_pcb_layout_eval.pdf from
> > > ftp://ftp.tapr.org/picsig/docs/pic-e_pcb_layout_eval.pdf
> > >
> > > and that is the board I have . I got mine just before DCC
> > > I guess several old evaluation boards got shipped.
> >
> > No Robert, you did not receive any evaluation boards.
> >
> > TAPR just ordered 100 new PCBs from the board shop for this latest
> kitting.
> > Talking to Bob on the phone last night it appears that we may have
> received
> > a bad batch. The trouble is not knowing how many PCBs in the order are
> good
> > or bad.
> >
> > Bob is mailing me his board. I can look at it then and we can in turn
get
> > the board shop to fix the problem.
> >
> > In the mean time, everyone that recently purchased a PIC-E, take a look
at
> > the PCB and let me know if it is good or bad.
> >
> >
> > > I will Call the TAPR office in the morning.
> > >
> > > Thanks to Bob , I had not starting soldering but was
> > > just checking my mail as I warmed up the soldering station.
> >
> >
> > > - Steve, N7HPR
> >
> >
> >
> > ---
> > You are currently subscribed to picsig as: smorris@mindspring.com
> > To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org
> >
>
>
> ---
> You are currently subscribed to picsig as: srbible@gate.net
> To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org
>
>

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

106. [picsig] Re: PIC-E kit problem? the PCB

From: "Dave VanHorn" <dvanhorn@cedar.net>
Date: Wed, 29 Sep 1999 10:28:27 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>

Message-ID: <LYR6890-42282-1999.09.29-10.43.31--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> This process error, of course, should not happen. This very same set of
> gerber files was used in the first 100 kits. So we know that the PCB is
> good.

Sounds like your board house owes you a free run!

At Lanmark (where I get boards done) that would be cause for an emergency
run on 24 hr turn at no cost. It's only happened to me once, but everyone
makes mistakes.
The boards looked great, until I realized that they had rotated the SMD pads
90 degrees, causing hundreds of shorts to the adjacent tracks. :-P

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

107. [picsig] Re: $20 GPS NMEA Converter Now Available

From: "Byon Garrabrant" <byon@mail.com>
Date: Wed, 29 Sep 1999 08:57:02 -0700
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-42289-1999.09.29-11.13.03--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On 29 Sep 99, at 0:27, Byon Garrabrant wrote:

> I have created a converter for the Mavin $20 GPS to output the
> NMEA-0183 format.
>
> www.byonics.com/gst-2
>

Whoops, due to a bug in the HTML, the page shows up as all
black on Netscape, but not in IE. Should be fixed now. Sorry.

Byon

_____
 Byon Garrabrant   N6BG   byon@mail.com

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

108. [picsig] Re: $20 GPS NMEA Converter Now Available

From: bj382@scn.org (Hank Riley)
Date: Wed, 29 Sep 1999 09:27:57 -0700 (PDT)
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-42291-1999.09.29-11.36.13--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Byon,

I think your html pointer to the v 0.80 firmware has a typo, because
it's coming up not available.

It's suspicious because it's got two dots in it:

Could you check that out, please?

Hank

>On 29 Sep 99, at 0:27, Byon Garrabrant wrote:
>
>
>Whoops, due to a bug in the HTML, the page shows up as all
>black on Netscape, but not in IE. Should be fixed now. Sorry.
>
>Byon

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

109. [picsig] PIC-E PCB Mistery Solved!

From: "Steven R. Bible" <srbible@gate.net>
Date: Wed, 29 Sep 1999 18:29:23 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-42330-1999.09.29-17.39.15--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Gang,

Bob sent me a digital image of the PCB he had, and sure enough, it is an
evaluation PCB. I'm not sure how it happened, but the good news is that
it's not a bad board run.

To determine if you have an eval PCB, here are some clues:
- the voltage regulator U2 is a 78L05 in a TO-92 case.
- the board shop number is LSC-5 94V-0 5098 (on bottom of PCB).

The production PCB is as pictured in the assembly manual. Clues are:
- the voltage regulator U2 is a 7805 in a TO-220 case.
- the board shop number is LSC-5 94V-0 1799

Please let me know if you received an evaluation PCB. TAPR will gladly
replace it.

- Steve, N7HPR
  n7hpr@tapr.org
  n7hpr@amsat.org

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

110. [picsig] Re: PIC-E kit problem? the PCB

From: "Mark E. Bender" <mbender@ix.netcom.com>
Date: Wed, 29 Sep 1999 20:45:03 -0700
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-42357-1999.09.29-22.55.50--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Steve,

I just purchased a board about 3 weeks ago, and the board I received DOES have
the holes for
R20, R21 and C8. The board has the artwork of " LSC-5 94V-0 1799 " . I have not
checked for
each component placement, but suspect board is O.K.

Mark Bender
KD6NOT

"Steven R. Bible" wrote:

> Bob noticed that he did not have holes to mount R20 and R21. That was for
> starters. And as we talked on the phone last night, he noticed that one
> hole for C8 was also missing. And it appears that the silkscreen was not
> outlining the parts. So it sounds like a process error of some sort. After
> I can se the board in person I can tell better.
>
> This process error, of course, should not happen. This very same set of
> gerber files was used in the first 100 kits. So we know that the PCB is
> good.
>
> The reason I asked how many are good and bad is that in the process of
> making the PCBs, the board shop replicates the design as many times as will
> fit on one large PCB sheet. Say for example, 10 PCBs can be made in one
> sheet. And then say (for whatever reason) the design gets mucked on one of
> those 10. In an order of 100, that will be 10 bad PCBs. We need to find
> out how many are bad to get replacements from the board shop.
>
> So if you recently purchased a PIC-E (even a month prior to DCC), please let
> me know if the PCB was good or bad.
>
> Thanks!
>

> - Steve

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

111. [picsig] PIC-E Kit Question

From: "Vince Self" <w6fak@home.com>
Date: Thu, 30 Sep 1999 16:55:39
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-42483-1999.09.30-17.07.06--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Please let me know where I may locate:

picprg06.zip file

I have been unable to locate it on the two discs furnished.

Tnx es 73, Vince, w6fak

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

112. [picsig] Re: PIC-E kit problem? the PCB

From: "Steven R. Bible" <srbible@gate.net>
Date: Thu, 30 Sep 1999 18:48:24 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-42489-1999.09.30-17.58.14--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 08:45 PM 9/29/99 -0700, you wrote:
>Steve,
>
>I just purchased a board about 3 weeks ago, and the board I received DOES
have
>the holes for
>R20, R21 and C8. The board has the artwork of " LSC-5 94V-0 1799 " . I
have not
>checked for
>each component placement, but suspect board is O.K.

Yes Mark, you have good boards!

- Steve, N7HPR
  n7hpr@tapr.org
  n7hpr@amsat.org

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

113. [picsig] Re: PIC-E Kit Question

From: "Steven R. Bible" <srbible@gate.net>
Date: Thu, 30 Sep 1999 18:49:34 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-42491-1999.09.30-17.59.21--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 04:55 PM 9/30/99, you wrote:
>
>Please let me know where I may locate:
>
>picprg06.zip file

Software for the PIC-E can be found at

   ftp://ftp.tapr.org/picsig/

Software is in the "software" directory and documentation in "docs".

- Steve, N7HPR
  n7hpr@tapr.org
  n7hpr@amsat.org

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

October 1999

Original source file: picsig.9910
Source: http://ftp.tapr.org/tapr_history/SIG_Archives/picsig/mail_archive/picsig.9910

1. [picsig] Re: BASIC compilers

From: John Hansen <hansen@fredonia.edu>
Date: Fri, 01 Oct 1999 08:16:33 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-42502-1999.10.01-12.20.41--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 08:07 AM 9/29/99 -0500, you wrote:
>Hello Steve,
>
>My notes are a mess...
>
>What were the two BASIC compilers you told me were available for PIC? Who
>sells them?
>
>Thanks much,
>
>Stan, WA1LOU

http://www.melabs.com/mel/home.htm

73, John W2FS

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

2. [picsig] GPS-E-2 firmware available for the Trimble SVeeSix

From: John Hansen <hansen@fredonia.edu>
Date: Thu, 30 Sep 1999 23:24:51 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-42503-1999.10.01-12.20.49--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

If you bought one of those Trimble SVeeSix GPS units that BG Micro was
remaindering for $20 a while back you may have wanted to use it with your
PIC-E. Thanks to Doug Bade, KB8GVQ and Greg Romaniak, N8XOS, it has been
possible to produce a version of GPS-E-2 for use with these units. The
main difference is that
it keys off the PPA and VTR sentences, not the RMC sentence. The new file
has been uploaded to the picsig upload area and should be available for
downloading soon. The file name is GPS-E-2-SV6.ZIP.

John, W2FS

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

3. [picsig] New Version of GPS-2-E

From: John Hansen <hansen@fredonia.edu>
Date: Thu, 30 Sep 1999 23:21:46 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-42506-1999.10.01-12.21.53--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

The latest (and I hope last) version of the GPS-2-E firmware (rev E) has
been uploaded to the picsig software area at TAPR and should soon be moved
to the download directory. It corrects the following errors in version C:

1. Inaccurate position for longitudes of 0 - 9 degrees.

2. Solves the intermittent problem that some people were having with
occasional bad position transmissions.

3. Fixes the performance of the "slow" parameter.

73, John W2FS

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

4. [picsig] ka9kim -Re: Interfacing with the AISIN GPS from Electro-Mavin

From: "James E. Gutshall" <gutshall@pcu.net>
Date: Thu, 30 Sep 1999 20:31:50 -0600
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-42608-1999.10.01-12.45.58--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

here is the message I get
Forbidden
You don't have permission to access /~ka9kim/gps_disp.html on this server.

-----Original Message-----
From: Sims, Mike <msims@invensysappliance.com>
To: TAPR PIC Development Special Interest Group <picsig@lists.tapr.org>
Date: Thursday, September 16, 1999 6:58 AM
Subject: [picsig] Re: Interfacing with the AISIN GPS from Electro-Mavin

>Hi again,
>
>I spent about a minute putting together a page that described some of the
>details of the Aisin GPS Display Module. I need to put the PIC Binary Code
>up there yet, then follow this with some source, but that will have to wait
>for another day....
>
>The address of the site I put the article on is:
>http://k8daa.ampr.org/~ka9kim/gps_disp.html .
>
>73,
>
>Mike
>KA9KIM
>
>---
>You are currently subscribed to picsig as: gutshall@pcu.net
>To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

---
You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

5. [picsig] Re: roe ka9kim -Re: Interfacing with the AISIN GPS from Electro-Mavin

From: "James E. Gutshall" <gutshall@pcu.net>
Date: Thu, 30 Sep 1999 20:29:32 -0600
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-42606-1999.10.01-12.45.54--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Mike , I think there may be a problem with your web sit as several of us
have not been able to connect to it
. please check the address ect , I keep getting a not authorize message from
it. Thanks James.
-----Original Message-----
From: Sims, Mike <msims@invensysappliance.com>
To: TAPR PIC Development Special Interest Group <picsig@lists.tapr.org>
Date: Thursday, September 16, 1999 6:58 AM
Subject: [picsig] Re: Interfacing with the AISIN GPS from Electro-Mavin

>Hi again,
>
>I spent about a minute putting together a page that described some of the
>details of the Aisin GPS Display Module. I need to put the PIC Binary Code
>up there yet, then follow this with some source, but that will have to wait
>for another day....
>
>The address of the site I put the article on is:
>http://k8daa.ampr.org/~ka9kim/gps_disp.html .
>
>73,
>
>Mike
>KA9KIM
>

>---
>You are currently subscribed to picsig as: gutshall@pcu.net
>To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

---
You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

6. [picsig] Pre Pic-E source code

From: Richard A Hershey <kiloalphaeightdeltaechodelta@juno.com>
Date: Fri, 1 Oct 1999 12:32:57 EDT
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-42623-1999.10.01-13.21.54--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I had a version of the pic-e prerelease code that had I2C support in it.
Does anyone know were I can get this
zipped archive from as I lost this code. I can not get EMAIL ATTACHMENTS
at this address so Ill need to
download it.

_____
Get the Internet just the way you want it.
Free software, free e-mail, and free Internet access for a month!
Try Juno Web: http://dl.www.juno.com/dynoget/tagj.

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

7. [picsig] Re: BASIC compilers

From: "Horzepa, Stan" <Stan_Horzepa@adc.com>
Date: Fri, 1 Oct 1999 13:32:56 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-42626-1999.10.01-13.44.27--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Thanks, John.

73,

Stan, WA1LOU

-----Original Message-----
From: John Hansen [mailto:hansen@fredonia.edu]
Sent: Friday, October 01, 1999 8:17 AM
To: TAPR PIC Development Special Interest Group
Subject: [picsig] Re: BASIC compilers

At 08:07 AM 9/29/99 -0500, you wrote:
>Hello Steve,
>
>My notes are a mess...
>
>What were the two BASIC compilers you told me were available for PIC? Who
>sells them?
>
>Thanks much,
>
>Stan, WA1LOU

http://www.melabs.com/mel/home.htm

73, John W2FS

You are currently subscribed to picsig as: stan_horzepa@adc.com
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

---
You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

8. [picsig] APRS Protocol Specification now available

From: Ian Wade <ian@dowrmain.demon.co.uk>
Date: Sun, 3 Oct 1999 14:38:08 +0100
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-42968-1999.10.03-08.54.32--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

FYI, the first draft of the APRS Protocol Specification is now available
for comment:

http://www.tapr.org/tapr/html/aprswg.html

73
Ian, G3NRW
--
+---+
| Editor: RSGB's RadCom "Data" column. |
| email: g3nrw@arrl.net |
| AX.25: G3NRW @ GB7ZPU.#21.GBR.EU |
| |
| INTRODUCTION TO APRS: http://www.netro.co.uk/whitepaper.htm |
| APRS PROTOCOL SPEC: http://www.tapr.org/tapr/html/aprswg.html |
+---+

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

9. [picsig] Permissions fixed... ($20 GPS from mavin.com)

From: "Sims, Mike" <msims@invensysappliance.com>
Date: Mon, 4 Oct 1999 07:33:26 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-43169-1999.10.04-06.45.19--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Well, there was something wrong, but it is fixed now... Something weird
about permissions & LINUX.

By the way, I spent some time on this rainy weekend and fixed the last of my
known bugs, and have put the hex file for the code on the website.

For those that did not read the previous mails: I wrote some code that
would take the data from the Aisin GPS Engine and display it to an LCD
display. The unit is small and inexpensive. Displays that are compatible
are available from http://www.mpja.com for as little as $4.

My website is http://k8daa.ampr.org/~ka9kim/gps_disp.html .

Drop me a note if you find this interesting.

73,

Mike Sims
KA9KIM

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

10. [picsig] Source of Yaesu 4-pin plug for VX series

From: "\"Bruce Hunt\" <bruce.hunt@satcom.com.au>
□\"TAPR PIC Development Special Interest Group\"" <picsig@lists.tapr.org>
Date: Mon, 4 Oct 1999 09:19:18 -0600
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-43214-1999.10.04-10.35.49--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi folks,
Does anyone know of a source for the 4-pin plug used by Yaesu in the VX-1
and VX-5. I am looking for a source that is cheaper and more extensible
than buying the official 'clone' cable and cutting it in half!
73's
Bruce, VK6XZ

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

11. [picsig] Re: Source of Yaesu 4-pin plug for VX series

From: "Kurt A. Freiberger" <kurt@cs.tamu.edu>
Date: Mon, 04 Oct 1999 10:54:04 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-43218-1999.10.04-11.06.08--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 09:19 AM 10/4/99 -0600, you wrote:
>Hi folks,
>Does anyone know of a source for the 4-pin plug used by Yaesu in the VX-1
>and VX-5. I am looking for a source that is cheaper and more extensible
>than buying the official 'clone' cable and cutting it in half!
>73's
>Bruce, VK6XZ

 From the "Unofficial VX-1R Page":
Tower Electronics "The Hams Dime Store & Wholesaler To The World" has
the 4 conductor plugs for the VX-1R & FT50r. You can contact them at:
                                        Orders 1-800-662-3422
                                      Tech Info 1-920-435-3359
                                       Fax Line 1-920-435-2980
                                     Email KB9AMM@juno.co

Howzat?

73/Kurt

Kurt Freiberger, WB5BBW   Network Environmentalist   Austin, TX
Rebecca Elspeth Freiberger was born 10 Sep 1999. 4 lbs, 4 oz.
17 inches long. 7 weeks early, but is doing great! She should be
home soon. Nancy is home and doing great. Point your browser to
http://www.realtime.net/~nancy2 for pictures and news.

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

12. [picsig] 2 Chip Telemetry system

From: Ray Vaughan <ray@rayvaughan.com>
Date: Wed, 06 Oct 1999 18:09:26 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-43688-1999.10.06-17.16.51--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I just read a quick review (RCR, 9/27/99, page 58) about a 2 chip set from
TI that give you everything you need to do telemetry in the 850-950 Mhz
frequency range. "With the chip set, designers can build a complete system
with a bill of materials of less than $6 said TI.

They mention doing remote meter reading with it, so it sounds like it can
do some distance. Spec sheet says it can do 5 dBm.

All the details here:

http://www.ti.com/sc/docs/news/1999/99066a.htm

Sounds like it might be a cool way to get data into the APRS network.
Maybe one of these with a PIC and we could have a real cheap remote weather
station.

Most of the stuff is over my head, but is sounds like it has some
potential. Anyone here interested?

Ray J. Vaughan, MS, CBTE
KD4BBM
ray@rayvaughan.com
http://www.rayvaughan.com/

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

13. [picsig] Re: Permissions fixed... ($20 GPS from mavin.com)

From: "Lou" <lfaustini@atlantech.net>
Date: Sat, 9 Oct 1999 02:39:42 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>

Message-ID: <LYR6890-44135-1999.10.09-02.00.19--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Still working on getting it NMEA compliant. I had to sacrifice the LCD
stuff (for now anyway) to get the GPGSA and GPRMC and GPGGA messages going.
But, there is still hope.

   ---Lou

-----Original Message-----
From: Sims, Mike <msims@invensysappliance.com>
To: TAPR PIC Development Special Interest Group <picsig@lists.tapr.org>
Date: Monday, October 04, 1999 7:35 AM
Subject: [picsig] Permissions fixed... ($20 GPS from mavin.com)

>Well, there was something wrong, but it is fixed now... Something weird
>about permissions & LINUX.
>
>By the way, I spent some time on this rainy weekend and fixed the last of
my
>known bugs, and have put the hex file for the code on the website.
>
>For those that did not read the previous mails: I wrote some code that
>would take the data from the Aisin GPS Engine and display it to an LCD
>display. The unit is small and inexpensive. Displays that are compatible
>are available from http://www.mpja.com for as little as $4.
>
>My website is http://k8daa.ampr.org/~ka9kim/gps_disp.html .
>
>Drop me a note if you find this interesting.
>
>73,
>
>Mike Sims
>KA9KIM
>
>---
>You are currently subscribed to picsig as: lfaustini@atlantech.net
>To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org
>

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

14. [picsig] Compatable radios

From: "Mike Berg" <mikeberg@midstate.tds.net>
Date: Sun, 10 Oct 1999 14:18:47 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-44309-1999.10.10-14.30.20--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I was considering buying a Kenwood TM-261 for mobile PIC-E use, but
decided not to after looking at the .pdf owners manual. There it says the rx audio
via the mic connector is unsquelched, making it unsuitable for use with the
PIC-E. Does anyone have a list of radios compatable with PIC-E?

73 Mike N0QBH

15. [picsig] Re: Compatable radios

From: John Hansen <hansen@fredonia.edu>
Date: Sun, 10 Oct 1999 15:34:41 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-44312-1999.10.10-14.47.06--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 02:18 PM 10/10/99 -0500, you wrote:
>I was considering buying a Kenwood TM-261 for mobile PIC-E use, but
>decided not to after looking at the .pdf owners manual. There it says the
>rx audio
>via the mic connector is unsquelched, making it unsuitable for use with the
>PIC-E. Does anyone have a list of radios compatable with PIC-E?
>
>73 Mike N0QBH

You could pull the squelched audio off the speaker jack and then split it
to have it go to both the PIC-E and a speaker. I believe you will find

that it is quite common to put unsquelched audio on the mic jack. I've
also had radios that claimed to have audio on the mic jack, but didn't.

John, W2FS

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

16. [picsig] Re: Compatable radios

From: Derek Lassen <kn6td@clubnet.net>
Date: Sun, 10 Oct 1999 15:15:26 -0700
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-44331-1999.10.10-17.32.06--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/html

I am unsure if the 261 is the same platform as the 741?

If it is, I have worked out a mode that I have done to 4 different
741s.

It changes the audio on the mike connector to be squelched.

The mod is three etch cuts and three jumpers on the outside face of the
PC board (only minor disassembly required.

Let me know if this would help.

I'll go get the manual and see if the circuit is similar...

Also, the audio on the 733 is squelched.

At 02:18 PM 10/10/99 -0500, you wrote:

I was considering buying a Kenwood TM-261 for
mobile PIC-E use, but

decided not to after looking at the .pdf owners manual. There it says
the rx audio

via the mic connector is unsquelched, making it unsuitable for use with
the

PIC-E. Does anyone have a list of radios compatable with PIC-E?

73 Mike N0QBH

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

17. [picsig] Re: Compatable radios

From: "Byon Garrabrant" <byon@mail.com>
Date: Sun, 10 Oct 1999 15:31:09 -0700
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-44334-1999.10.10-17.46.02--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On 10 Oct 99, at 14:18, Mike Berg wrote:

> I was considering buying a Kenwood TM-261 for mobile PIC-E use, but
> decided not to after looking at the .pdf owners manual. There it says the
> rx audio via the mic connector is unsquelched, making it unsuitable for
> use with the PIC-E. Does anyone have a list of radios compatable with
> PIC-E?
>

You know, it should be possible to perform DCD on the incoming
RXD. We would lose one of the switches, but you could then feed
in unsquelched audio.

Byon

_____
 Byon Garrabrant   N6BG   byon@mail.com

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

18. [picsig] Re: Compatable radios

From: Derek Lassen <kn6td@clubnet.net>
Date: Sun, 10 Oct 1999 15:29:30 -0700
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-44335-1999.10.10-17.46.17--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/html

I just got the manual from Kenwood - no schematics.

Does any body have the schematics?

Look for an analog multiplexor feeding the amplifier which feeds the mike
connector.

There is likly squelched and unsquelched audio there.

Or do the standard, follow the audio from the detecter...

At 02:18 PM 10/10/99 -0500, you wrote:

I was considering buying a Kenwood TM-261 for
mobile PIC-E use, but

decided not to after looking at the .pdf owners manual. There it says
the rx audio

via the mic connector is unsquelched, making it unsuitable for use with
the

PIC-E. Does anyone have a list of radios compatable with PIC-E?

73 Mike N0QBH

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

19. [picsig] Bookmark this for NMEA sentence details

From: Ian Wade <ian@dowrmain.demon.co.uk>
Date: Mon, 11 Oct 1999 08:11:00 +0100
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-44375-1999.10.11-02.24.59--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

If you need details of NMEA sentence formats, take a look at the Garmin
25 Tech Ref manual:

http://www.garmin.com/manuals/spec25.pdf

73
Ian, G3NRW
--
+---+
| Editor: RSGB's RadCom "Data" column. |
| email: g3nrw@arrl.net |
| AX.25: G3NRW @ GB7ZPU.#21.GBR.EU |
| |
| INTRODUCTION TO APRS: http://www.netro.co.uk/whitepaper.htm |
| APRS PROTOCOL SPEC: http://www.tapr.org/tapr/html/aprswg.html |
+---+

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20. [picsig] GPS display for NMEA

From: "Warren A Merkel" <austin@magicnet.net>
Date: Mon, 11 Oct 1999 09:22:19 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-44387-1999.10.11-08.34.13--lyris.picsig#tapr.org@lists.tapr.org>

Rendered body type: text/plain

< Mike wrote:>

> For those that did not read the previous mails: I wrote some code
> that would take the data from the Aisin GPS Engine and display it to
> an LCD display. The unit is small and inexpensive. Displays that are
> compatible are available from http://www.mpja.com for as little as $4.
>
> My website is http://k8daa.ampr.org/~ka9kim/gps_disp.html .

For the rest of us using NMEA output GPSs, I have done the
same thing with a 2x20 LCD and a 16F84.   You will find the
diagram and hex file buried in with a 4 line BasicStamp model
at www.clientprofiles.com/display

Enjoy.

Warren A. Merkel
kd4zdd@amsat.org
Orlando, FL

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

21. [picsig] Linux APRS software avaible!!!

From: "Mark Grennan" <mgrenna@mail.fleming.com>
Date: Mon, 11 Oct 1999 10:58:32 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-44414-1999.10.11-11.10.31--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Yes it is available! And it works good to.

X Amateur Station Tracking and Information Reporting Project
http://www.eazy.net/users/fgiannan/xaprs/

Now only hours after buying VMWare so I could run APRS+ under that other operating
system, I found XAPTIR.

If your like me and you think Linux is the only TRUE OS you need to check this out.

Source code is available. I already have designs on what I'm going to do with it.
For example, XAPTIR has alarms all ready. I'm going to teach it how to shell out on
an alarm. Maybe have it turn on my porch light when I'm a block from the house.

Thank you Frank Giannandrea

Mark Grennan (KD5AMB)

In a world with out fences, how needs Gates!

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

22. [picsig] PIC-E compatable radios...

From: "Mike Berg" <mikeberg@midstate.tds.net>
Date: Mon, 11 Oct 1999 20:56:58 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-44496-1999.10.11-21.57.56--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

The audio mod idea sounds workable except it'll probably void the
warranty. I know my Yaesu FT-2400 has squelched audio to the mic,
but am unable to find that spec for the new FT-2600. Anyone know?

I'm also interested in Byon's idea for doing DCD with the PIC.
Details ??

My experimenting with the Ramtron serial memory IC and a PIC 16F84
has been fruitfull. I built the circuit on a Micro Engineering PIC Proto 18
pc board, included a MX614 to create a packet decoder that does
entire packets up to 255 bytes. Connects to my Palm for a tidy APRS
network monitor. It and the 9v battery fit in a gargage door transmitter

case and it draws apporox 5 mA of current.

73 Mike Berg N0QBH

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

23. [picsig] Re: PIC-E compatable radios...

From: "Byon Garrabrant" <byon@mail.com>
Date: Mon, 11 Oct 1999 23:22:08 -0700
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-44539-1999.10.12-01.36.42--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On 11 Oct 99, at 20:56, Mike Berg wrote:

> I'm also interested in Byon's idea for doing DCD with the PIC.
> Details ??

Well, I could do it like James Jefferson's PIC copy of the TAPR
DCD state machine. But I still want to understand how that FSM
works and perhaps figure out haw to write it in code without the
table.

Byon
_____
 Byon Garrabrant   N6BG   byon@mail.com

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

24. [picsig] Speed determined sampling

From: "Thomas M. Schaefer" <toms@inconnect.com>
Date: Tue, 12 Oct 1999 10:57:52 -0600
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-44609-1999.10.12-14.07.02--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I think I remember someone talking about some PIC code that determined if
the GPS was moving based on the rate information from the GPS. Does someone
own up to this?

I was thinking that it would be good to put a PIC FOB in between my GPS and
my TNC and if the GPS was moving, it would just let the data go, but if the
GPS stopped moving, it would only send an NMEA packet every 20 minutes or
so. Now before everyone solves my problem with the ubiquitous relay circuit
for the ignition, this is the PIC sig and I want to play with PIC code.

Also,

Does anyone know a source for the little 9 pin through connectors. These
are the ones that let you put a little circuit board.

Thanks in advance,

Tom

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

25. [picsig] Mavin GPS

From: John Hansen <hansen@fredonia.edu>
Date: Tue, 12 Oct 1999 16:17:14 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-44612-1999.10.12-15.29.25--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

For what it's worth, I just called electro-mavin and ordered four of their
GPS kits. They said they still have close to 400 left (which it seems to
me is the same thing they were saying last month).

John, W2FS

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

26. [picsig] Re: Mavin GPS

From: "James E. Gutshall" <gutshall@pcu.net>
Date: Tue, 12 Oct 1999 21:02:18 -0600
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-44691-1999.10.12-22.14.52--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

they told me they had 502 units last month.... so they are going fast!

-----Original Message-----
From: John Hansen <hansen@fredonia.edu>
To: TAPR PIC Development Special Interest Group <picsig@lists.tapr.org>
Date: Tuesday, October 12, 1999 2:18 PM
Subject: [picsig] Mavin GPS

>For what it's worth, I just called electro-mavin and ordered four of their
>GPS kits. They said they still have close to 400 left (which it seems to
>me is the same thing they were saying last month).
>
>John, W2FS
>
>
>---
>You are currently subscribed to picsig as: slrm5@cc.usu.edu
>To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org
>

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27. [picsig] Re: Speed determined sampling

From: "Jim K." <jim@madpower.com>
Date: Tue, 12 Oct 1999 23:52:22 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-44698-1999.10.12-23.00.54--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Yes, I did this.
The GPS (I used a tripmate) sends out it's speed, I just looked at that
number. If it's zero or 1mile per hr. then, I sending positions every 45min.
2miles per hr. or faster I send positions every min..   I always planed to vary
the rate of transmissions as the speed of my car changed, but that part of the
code has not yet made it to the pic....

Jim - KB2UOI

"Thomas M. Schaefer" wrote:

> I think I remember someone talking about some PIC code that determined if
> the GPS was moving based on the rate information from the GPS. Does someone
> own up to this?
>
> I was thinking that it would be good to put a PIC FOB in between my GPS and
> my TNC and if the GPS was moving, it would just let the data go, but if the
> GPS stopped moving, it would only send an NMEA packet every 20 minutes or
> so. Now before everyone solves my problem with the ubiquitous relay circuit
> for the ignition, this is the PIC sig and I want to play with PIC code.
>
> Also,
>
> Does anyone know a source for the little 9 pin through connectors. These
> are the ones that let you put a little circuit board.
>
> Thanks in advance,

>
> Tom
>
> ---
> You are currently subscribed to picsig as: kb2uoi@amsat.org
> To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

--

 Jim Krutzler A.K.A. "Jimbo K"

 Home Page: http://www.madpower.com

 mailto:jim@madpower.com
 mailto:kb2uoi@amsat.org

 Ham Radio call: KB2UOI
 Phone/Fax 732.248.4479

 Attitude is Everything!
_____

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28. [picsig] Re: Speed determined sampling

From: "Thomas M. Schaefer" <toms@inconnect.com>
Date: Tue, 12 Oct 1999 23:36:15 -0600
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-44725-1999.10.13-00.58.13--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Is this code for the PIC-E? Do you have the code to share?

Tom
----- Original Message -----
From: Jim K. <jim@madpower.com>
To: TAPR PIC Development Special Interest Group <picsig@lists.tapr.org>
Sent: Tuesday, October 12, 1999 9:52 PM
Subject: [picsig] Re: Speed determined sampling

> Yes, I did this.
> The GPS (I used a tripmate) sends out it's speed, I just looked at that
> number. If it's zero or 1mile per hr. then, I sending positions every
45min.
> 2miles per hr. or faster I send positions every min..   I always planed to
vary
> the rate of transmissions as the speed of my car changed, but that part
of the
> code has not yet made it to the pic....
>
> Jim - KB2UOI
>
>
> "Thomas M. Schaefer" wrote:
>
> > I think I remember someone talking about some PIC code that determined
if
> > the GPS was moving based on the rate information from the GPS. Does
someone
> > own up to this?
> >
> > I was thinking that it would be good to put a PIC FOB in between my GPS
and
> > my TNC and if the GPS was moving, it would just let the data go, but if
the
> > GPS stopped moving, it would only send an NMEA packet every 20 minutes
or
> > so. Now before everyone solves my problem with the ubiquitous relay
circuit
> > for the ignition, this is the PIC sig and I want to play with PIC code.
> >
> > Also,
> >

> > Does anyone know a source for the little 9 pin through connectors.
These
> > are the ones that let you put a little circuit board.
> >
> > Thanks in advance,
> >
> > Tom
> >
> > ---
> > You are currently subscribed to picsig as: kb2uoi@amsat.org
> > To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org
>
> --
>
> Jim Krutzler A.K.A. "Jimbo K"
>
> Home Page: http://www.madpower.com
>
> mailto:jim@madpower.com
> mailto:kb2uoi@amsat.org
>
> Ham Radio call: KB2UOI
> Phone/Fax 732.248.4479
>
> Attitude is Everything!
>

_____

>
>
>
> ---
> You are currently subscribed to picsig as: toms@inconnect.com
> To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org
>

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

29. [picsig] Re: Speed determined sampling

From: "Byon Garrabrant" <byon@mail.com>
Date: Tue, 12 Oct 1999 22:57:28 -0700
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-44728-1999.10.13-01.12.09--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On 12 Oct 99, at 10:57, Thomas M. Schaefer wrote:

> I think I remember someone talking about some PIC code that determined if
> the GPS was moving based on the rate information from the GPS. Does
> someone own up to this?
>
> I was thinking that it would be good to put a PIC FOB in between my GPS
> and my TNC and if the GPS was moving, it would just let the data go, but
> if the GPS stopped moving, it would only send an NMEA packet every 20
> minutes or so. Now before everyone solves my problem with the ubiquitous
> relay circuit for the ignition, this is the PIC sig and I want to play
> with PIC code.

I also made some comments on this front. It shouldn't be too
difficult to add speed based transmission rates to my PIC-E code.
We just need to decide/design how it should work.   Should there
be two update rates and a speed threshhold to pick which one to
use? Should we have a more analog solution, like transmit every 60
/ (speed in MPH) minutes? Should we transmit every 3 miles?
How does manual (MIC-E style) differ from automatic (tracker
style)?

Byon

_____
 Byon Garrabrant   N6BG   byon@mail.com

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

30. [picsig] Re: Speed determined sampling

From: Derek Lassen <kn6td@clubnet.net>
Date: Tue, 12 Oct 1999 23:17:31 -0700
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-44730-1999.10.13-01.35.22--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

That'll work great if the trackers are being carried by a slow walking
peson on a pier.
For the real world, how about emiting a update when a *significant* course
vector change occurs? How many degrees to consider it significant depends
on how fast.
....
At 10:57 PM 10/12/99 -0700, you wrote:
>On 12 Oct 99, at 10:57, Thomas M. Schaefer wrote:
>
>> I think I remember someone talking about some PIC code that determined if
>> the GPS was moving based on the rate information from the GPS. Does
>> someone own up to this?
>>
>> I was thinking that it would be good to put a PIC FOB in between my GPS
>> and my TNC and if the GPS was moving, it would just let the data go, but
>> if the GPS stopped moving, it would only send an NMEA packet every 20
>> minutes or so. Now before everyone solves my problem with the ubiquitous
>> relay circuit for the ignition, this is the PIC sig and I want to play
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>
>I also made some comments on this front. It shouldn't be too
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>We just need to decide/design how it should work.   Should there
>be two update rates and a speed threshhold to pick which one to
>use? Should we have a more analog solution, like transmit every 60
>/ (speed in MPH) minutes? Should we transmit every 3 miles?
>How does manual (MIC-E style) differ from automatic (tracker
>style)?
>
>Byon
>
>
>
>
>_____________________________________
> Byon Garrabrant   N6BG   byon@mail.com
>
>
>
>---
>You are currently subscribed to picsig as: kn6td@clubnet.net
>To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org
>

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

31. [picsig] Re: Speed determined sampling

From: "Byon Garrabrant" <byon@mail.com>
Date: Wed, 13 Oct 1999 00:03:30 -0700
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-44731-1999.10.13-02.18.11--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> >On 12 Oct 99, at 10:57, Thomas M. Schaefer wrote:
> >
> >> I was thinking that it would be good to put a PIC FOB in between my GPS
> >> and my TNC and if the GPS was moving, it would just let the data go, but
> >> if the GPS stopped moving, it would only send an NMEA packet every 20
> >> minutes or so. Now before everyone solves my problem with the ubiquitous
> >> relay circuit for the ignition, this is the PIC sig and I want to play
> >> with PIC code.

One thought on this. TNC's don't send packets each time they
hear from the GPS. They just keep saving the most current, and

then send the latest at the preprogrammed time. Slowing down the
data from the GPS would not slow down the update rate.

Unless.... you took the TNC out of GPS mode, and stripped out all
sentences but the one you were interested in, and removed most
sentences even when the GPS was moving, so you didn't get 1Hz
packet updates. Also, put the GPS in converse, unconnected
mode.

Byon

_____
 Byon Garrabrant   N6BG   byon@mail.com

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

32. [picsig] Re: Speed determined sampling

From: "Richard C. Bandla" <rbandla@voicelogix.ca>
Date: Wed, 13 Oct 1999 07:03:39 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-44742-1999.10.13-06.15.43--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I had also commented on this. If you have a walker who travels at 3 to 5
miles an hour, a 45 minute report rate is too slow. So you really should
have 2 options: one is an analogue rate with varies based on speed, between
1 report every 30 seconds and 1 report every (say) 30 minutes; two is a
toggle which says use a programmed single fixed default rate (say 1 per
minute) continuously. Our walker would use the 1 per minute fixed rate, so
that his position can be monitored usefully.

Glad someone is looking at this agn - wish i knew enuff to do it.

Regard.
Rick (VE3CVG)

At 22:57 1999-10-12 -0700, you wrote:
>On 12 Oct 99, at 10:57, Thomas M. Schaefer wrote:
>
>> I think I remember someone talking about some PIC code that determined if
>> the GPS was moving based on the rate information from the GPS. Does
>> someone own up to this?
>>
>> I was thinking that it would be good to put a PIC FOB in between my GPS
>> and my TNC and if the GPS was moving, it would just let the data go, but
>> if the GPS stopped moving, it would only send an NMEA packet every 20
>> minutes or so. Now before everyone solves my problem with the ubiquitous
>> relay circuit for the ignition, this is the PIC sig and I want to play
>> with PIC code.
>
>I also made some comments on this front. It shouldn't be too
>difficult to add speed based transmission rates to my PIC-E code.
>We just need to decide/design how it should work.   Should there
>be two update rates and a speed threshhold to pick which one to
>use? Should we have a more analog solution, like transmit every 60
>/ (speed in MPH) minutes? Should we transmit every 3 miles?
>How does manual (MIC-E style) differ from automatic (tracker
>style)?
>
>Byon

1355 Minogue Cres., Cumberland, ON, Canada K4C1B4
phone 613 833-2787 (home)   fax 613 833 3032
phone 613 833-1950 (work)

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

33. [picsig] Mavin GPS. 1 pps out available?

From: Jon Iza <iapizloj@bicc00.bi.ehu.es>
Date: Wed, 13 Oct 1999 12:21:25 +0000
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-44746-1999.10.13-06.24.41--lyris.picsig#tapr.org@lists.tapr.org>

Rendered body type: text/plain

Folks,
The Mavin GPS works very well and would like to know if someone
has
already found the unit has a 1 pulse per second output, useful
for timing
purposes. I would try to find it myself, but wonder if a wise
guy has already
done this homework...
Be well.
jon, ea2sn

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

34. [picsig] Re: Speed determined sampling

From: "Thomas M. Schaefer" <toms@inconnect.com>
Date: Wed, 13 Oct 1999 11:25:08 -0600
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-44796-1999.10.13-12.37.44--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

In the KPC3 if you use the Clear function after the LT command, it will
clear the buffer after it is sent. Since there are several buffers, the
first one is cleared and set to xmit every 2 minutes (or so). The buffer
that is not cleared is set to xmit every 20 minutes. So, this would work on
the KPC3 Plus 8.3

Tom NY4I
-----Original Message-----
From: Byon Garrabrant <byon@mail.com>
To: TAPR PIC Development Special Interest Group <picsig@lists.tapr.org>
Date: Wednesday, October 13, 1999 1:07 AM
Subject: [picsig] Re: Speed determined sampling

>> >On 12 Oct 99, at 10:57, Thomas M. Schaefer wrote:
>> >
>> >> I was thinking that it would be good to put a PIC FOB in between my
GPS
>> >> and my TNC and if the GPS was moving, it would just let the data go,
but
>> >> if the GPS stopped moving, it would only send an NMEA packet every 20
>> >> minutes or so. Now before everyone solves my problem with the
ubiquitous
>> >> relay circuit for the ignition, this is the PIC sig and I want to play
>> >> with PIC code.
>
>One thought on this. TNC's don't send packets each time they
>hear from the GPS. They just keep saving the most current, and
>then send the latest at the preprogrammed time. Slowing down the
>data from the GPS would not slow down the update rate.
>
>Unless.... you took the TNC out of GPS mode, and stripped out all
>sentences but the one you were interested in, and removed most
>sentences even when the GPS was moving, so you didn't get 1Hz
>packet updates. Also, put the GPS in converse, unconnected
>mode.
>
>Byon
>_____________________________________
> Byon Garrabrant   N6BG   byon@mail.com
>
>
>
>---
>You are currently subscribed to picsig as: toms@inconnect.com
>To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org
>

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

35. [picsig] Electro Mavin Unit on Ebay

From: John Hansen <hansen@fredonia.edu>
Date: Wed, 13 Oct 1999 20:49:16 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-44842-1999.10.13-20.01.32--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Here's one for laughs. There's a guy over on Ebay trying to auction the
Electro-Mavin units. And the bidding is up to $31!.... And 11 people have
bid on it!

I guess I should buy a few more of them....

John, W2FS

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36. [picsig] Re: Linux APRS software avaible!!!

From: G Sanders <gsanders1@bigfoot.com>
Date: Wed, 13 Oct 1999 20:51:11 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-44843-1999.10.13-20.02.28--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Mark Grennan wrote:
>

> If your like me and you think Linux is the only TRUE OS you need to check this out.
>
> Source code is available. I already have designs on what I'm going to do with it.
> For example, XAPTIR has alarms all ready. I'm going to teach it how to shell out on
> an alarm. Maybe have it turn on my porch light when I'm a block from the house.
>

It's already been done (sorta)!

See:

http://www.misterhouse.net/ (Click on the "Web Interface" and click on
"tracking").

It's an X-10 based home control system that runs on either Win95 or Linux,
written in Perl. Open source, of course.

It has APRS decoding built in, and will speak or display (in text)
a tracker's position with respect to predefined locations.

There was an article on it in this month's Circuit Cellar magazine.

It also speaks or provides text display of APRS weather info.

Since I'm new to Linux, I've been slogging my way through getting it (and
linux) running here at home.

Linux may be stable, but for us newbies it can be a true struggle!

Gary Sanders   WB0BZR

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

37. [picsig] PIC-E radio compatability...

From: "Mike Berg" <mikeberg@midstate.tds.net>
Date: Thu, 14 Oct 1999 21:40:54 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-44993-1999.10.14-21.52.27--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I've been doing some research on my own and here's what I've found
out so far, in regards to whether or not the rx audio at the mic connector
is squelched on some popular new 2m mobile radios.

>On 10/12/1999 at 7:43 PM Mike Berg wrote:
I'm looking to buy two, 2m mobile transceivers, both of which must be
compatable
with my TAPR PIC-E gear. This means a RJ-45 style mic connector and

squelched audio on one of the mic connector pins.
The Kenwood 261 is out because of unsquelched audio on the mic connector.
Can you tell me if either the Yaesu FT-2600 or the ICOM IC-2100 will work
for
me ?

>Hello Mike,

Neither of the radios you mentioned has squelched audio on the mike jack. I
am at a loss to suggest anything. Unless the radio were modified to present
the correct form of audio at the mike jack instead, I have no idea how to do
what you require.

Thank you for contacting AES. We hope we can continue to assist you in the
future.

73s
Richard, KE9QU
AES, Milwaukee

I haven't asked what happens to the warranty if these "mods" were done.
73 Mike N0QBH

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38. [picsig] Re: Speed determined sampling

From: Jeff King <jeff@aerodata.net>
Date: Fri, 15 Oct 1999 12:40:05 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-45118-1999.10.15-11.51.23--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Derek Lassen wrote:

> For the real world, how about emiting a update when a *significant* course
> vector change occurs?

This is part of the real solution to this issue. I haven't worked out the
algorithms
yet, but we really need to look at three things. Speed, vector and distance
traveled.
It likely will require some floating point math, but we have some givens we can
work with.

We know S/A keeps us in a 100metre circle. So we simply keep the last
posit we sent. Now if speed is under our threshold, we compare the last
posit sent with the current position. If it is greater then 100metres different,

we know we have moved. This is the quick and dirty way to do it. This won't
eliminate the position ambiguity of S/A, but will at least allow us to track
slow moving platforms.

A more elegant way is to average the direction vector with speed. In effect,
this is what programs like S/A watch sort of do to get a more precise fix.
This depends on time to average out S/A. In our case, it would average out
speed due to the fact the direction vector is changing. As I said, I haven't
worked out the algorithm, but this should be doable. Now the question is
this approach doable on a PIC.

Oh, and a side note on speed triggering. I think all the solutions so far
(and I haven't looked at the code yet) use sampled speed. We really
need to look at average speed... that is, speed averaged over a time
interval. Again, this could be a PIC issue, but possibly a small array
could be averaged out (the speed is inserted in the array, and the pointer
rolls over, then the array is divided by the number of elements in the
array for the average).

Just some random thoughts.

-Jeff

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39. [picsig] Re: Speed determined sampling

From: Jeff King <jeff@aerodata.net>
Date: Fri, 15 Oct 1999 14:58:04 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-45133-1999.10.15-14.09.06--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Jeff King wrote:

> We know S/A keeps us in a 100metre circle. So we simply keep the last
> posit we sent. Now if speed is under our threshold, we compare the last
> posit sent with the current position. If it is greater then 100metres different,
> we know we have moved. This is the quick and dirty way to do it. This won't
> eliminate the position ambiguity of S/A, but will at least allow us to track
> slow moving platforms.

I should also add this would allow us to track "bursty" platforms as well.
That is, something that may move fast for some time, stop for a while,
then move fast for a while again. With sampling, there is a chance that
we only sample when the vehicle is stopped, which could introduce
significant errors.

Of course, all this filtering may exceed the capability of the 16F84 as
far as code size goes.

73

Jeff

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40. [picsig] Re: Speed determined sampling

From: "D. F. Welch" <amersci@flash.net>
Date: Fri, 15 Oct 1999 19:03:42 -0700
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-45205-1999.10.15-21.17.07--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 12:40 PM 10/15/99 -0400, you wrote:
>
>
>Derek Lassen wrote:
>
>> For the real world, how about emiting a update when a *significant* course
>> vector change occurs?
>
>This is part of the real solution to this issue. I haven't worked out the
>algorithms
>yet, but we really need to look at three things. Speed, vector and distance
>traveled.
>It likely will require some floating point math, but we have some givens
we can
>work with.
>
>We know S/A keeps us in a 100metre circle.

SA keeps you in that 100 Meter circle only 95% of the time.
the error can be quite significant the other 5% of the time.

-Dan
So we simply keep the last
>posit we sent. Now if speed is under our threshold, we compare the last
>posit sent with the current position. If it is greater then 100metres
different,
>
>we know we have moved. This is the quick and dirty way to do it. This won't
>eliminate the position ambiguity of S/A, but will at least allow us to track
>slow moving platforms.
>
>A more elegant way is to average the direction vector with speed. In effect,
>this is what programs like S/A watch sort of do to get a more precise fix.
>This depends on time to average out S/A. In our case, it would average out
>speed due to the fact the direction vector is changing. As I said, I haven't

>worked out the algorithm, but this should be doable. Now the question is
>this approach doable on a PIC.
>
>Oh, and a side note on speed triggering. I think all the solutions so far
>(and I haven't looked at the code yet) use sampled speed. We really
>need to look at average speed... that is, speed averaged over a time
>interval. Again, this could be a PIC issue, but possibly a small array
>could be averaged out (the speed is inserted in the array, and the pointer
>rolls over, then the array is divided by the number of elements in the
>array for the average).
>
>Just some random thoughts.
>
>-Jeff
>
>
>
>---
>You are currently subscribed to picsig as: amersci@flash.net
>To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org
>
>
>

Daniel F. Welch

Director
Research and Development
American Scientific Associates
Email: amersci@flash.net

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

41. [picsig] $20 GPS web page

From: James Jefferson <jjeffers@deskmedia.com>
Date: Wed, 20 Oct 1999 19:10:25 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-46012-1999.10.20-19.22.49--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hey guys, I just ran accross the following URL:

http://gps.instanet.com/

I haven't looked at it much, but it appears to have a lot of information
regarding our cute little GPS.

-James Jefferson

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

42. [picsig] Mavin $20 GPS

From: Bob Nielsen <nielsen@primenet.com>
Date: Tue, 19 Oct 1999 20:11:46 -0700
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-46052-1999.10.21-01.15.35--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I just phoned my order in today and was told that Electro-Mavin is
almost out of the units. They had 400 left on Friday, but on Monday
they had an order from Australia for 200 and another order for 100. If
anyone else is planning to pick one up, it might soon be too late.

Bob, w6swe

--
Bob Nielsen   Internet: nielsen@primenet.com
Tucson, AZ   AMPRnet: w6swe@w6swe.ampr.org
DM42nh   http://www.primenet.com/~nielsen

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43. [picsig] Re: Mavin $20 GPS

From: "Thomas M. Schaefer" <toms@inconnect.com>
Date: Thu, 21 Oct 1999 11:43:36 -0600
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-46090-1999.10.21-12.56.05--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Has anyone added code to any of the PIC E sample programs to convert the
binary data from these units?

Tom.
-----Original Message-----
From: Bob Nielsen <nielsen@primenet.com>
To: TAPR PIC Development Special Interest Group <picsig@lists.tapr.org>
Date: Thursday, October 21, 1999 12:04 AM
Subject: [picsig] Mavin $20 GPS

>I just phoned my order in today and was told that Electro-Mavin is
>almost out of the units. They had 400 left on Friday, but on Monday
>they had an order from Australia for 200 and another order for 100. If
>anyone else is planning to pick one up, it might soon be too late.
>
>Bob, w6swe
>
>--
>Bob Nielsen   Internet: nielsen@primenet.com
>Tucson, AZ   AMPRnet: w6swe@w6swe.ampr.org
>DM42nh   http://www.primenet.com/~nielsen
>
>---
>You are currently subscribed to picsig as: toms@inconnect.com
>To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org
>

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

44. [picsig] Mavin URL

From: robert@rochte.com
Date: Thu, 21 Oct 1999 11:17:06 -0700
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-46094-1999.10.21-13.29.33--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I'd like to pick up one of those GPS units before they run out
but I can't find the URL now. Could someone please forward it
to me?

Thanks!

Sent using MailStart.com (http://MailStart.Com/welcome.html)
The FREE way to access your mailbox via any web browser, anywhere!

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

45. [picsig] Re: Mavin URL

From: James Jefferson <jjeffers@deskmedia.com>
Date: Thu, 21 Oct 1999 13:22:09 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-46096-1999.10.21-13.34.35--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

http://mavin.com/slickitems.html

Note that there is NOT a www preceding the url. That had me fooled for
quite a
while.

Now that I've gotten rid of my cache of them I need to spend a little time
getting mine functioning.... =)

-James Jefferson

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46. [picsig] Re: Mavin URL

From: "Kurt A. Freiberger" <wb5bbw@airmail.net>
Date: Thu, 21 Oct 1999 15:27:58 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-46104-1999.10.21-15.41.43--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 01:22 PM 10/21/99 -0500, James Jefferson wrote:

>http://mavin.com/slickitems.html

Odd - I get Connector Distribution Corporation's website.
Anybody got Electo Mavin's telephone number? Or is there
a different URL?

73/Kurt

Kurt Freiberger, WB5BBW   Network Environmentalist   Austin, TX
As of right now, kurt@cs.tamu.edu should be changed to
wb5bbw@airmail.net. Forwarding will be in effect for a while.
Rebecca Elspeth Freiberger was born 10 Sep 1999. See her at
http://www.realtime.net/~nancy2 for the latest news. Yeah, I
know, I haven't updated it often enough...

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

47. [picsig] Re: Mavin URL

From: "Kurt A. Freiberger" <wb5bbw@airmail.net>
Date: Thu, 21 Oct 1999 15:49:50 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-46108-1999.10.21-16.04.00--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 03:27 PM 10/21/99 -0500, I wrote:
>At 01:22 PM 10/21/99 -0500, James Jefferson wrote:
>
>>http://mavin.com/slickitems.html
>
>Odd - I get Connector Distribution Corporation's website.
>Anybody got Electo Mavin's telephone number? Or is there
>a different URL?

How odd - I had to clear my history, location bar, and all caches from
Netscrape 4.7 before I got to the right place.

Ah well...

BTW, as of a few minutes ago, they are completely OUT of the GPS
units. Bummer...

73/Kurt

Kurt Freiberger, WB5BBW   Network Environmentalist   Austin, TX
As of right now, kurt@cs.tamu.edu should be changed to
wb5bbw@airmail.net. Forwarding will be in effect for a while.
Rebecca Elspeth Freiberger was born 10 Sep 1999. See her at
http://www.realtime.net/~nancy2 for the latest news. Yeah, I
know, I haven't updated it often enough...

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

48. [picsig] C Receiving Code

From: James Jefferson <jjeffers@deskmedia.com>
Date: Thu, 21 Oct 1999 19:29:18 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-46124-1999.10.21-19.41.44--lyris.picsig#tapr.org@lists.tapr.org>

Rendered body type: text/plain

Hello everyone,

Does anyone have some code for receiving packets that is written in 'C'? I know Byon N6BG and Mike N0QBH have example code written in assembler ... but that isn't really my cup of tea. I have enough problems trying to get my 'C' code working - I can't imagine assembler! :-(

If not then I'll hack some code this weekend for my 1k2telem board (which I have the prototype boards back now ... expect an announcement within a few days). Maybe even incorporate the DCD state machine code...

Have fun,

-James Jefferson KB0THN

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

49. [picsig] Re: Mavin URL

From: "Jim Paul" <jamesp@intertex.net>
Date: Thu, 21 Oct 1999 20:16:27 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-46130-1999.10.21-20.24.23--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Very strange Kurt. I clicked on the url you had in your post to the Piclist,
and up came the Electro-Mavin site. On the slickitems page. I don't see the problem.

Regards,

Jim
-----Original Message-----
From: Kurt A. Freiberger <wb5bbw@airmail.net>
To: TAPR PIC Development Special Interest Group <picsig@lists.tapr.org>
Date: Thursday, October 21, 1999 8:03 PM
Subject: [picsig] Re: Mavin URL

>At 03:27 PM 10/21/99 -0500, I wrote:
>>At 01:22 PM 10/21/99 -0500, James Jefferson wrote:
>>
>>>http://mavin.com/slickitems.html
>>
>>Odd - I get Connector Distribution Corporation's website.
>>Anybody got Electo Mavin's telephone number? Or is there
>>a different URL?
>
>How odd - I had to clear my history, location bar, and all caches from
>Netscrape 4.7 before I got to the right place.
>
>Ah well...
>
>BTW, as of a few minutes ago, they are completely OUT of the GPS
>units. Bummer...
>
>73/Kurt
>
>---
>Kurt Freiberger, WB5BBW Network Environmentalist Austin, TX
>As of right now, kurt@cs.tamu.edu should be changed to
>wb5bbw@airmail.net. Forwarding will be in effect for a while.
>Rebecca Elspeth Freiberger was born 10 Sep 1999. See her at
>http://www.realtime.net/~nancy2 for the latest news. Yeah, I
>know, I haven't updated it often enough...
>
>---
>You are currently subscribed to picsig as: jamesp@intertex.net
>To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org
>

You are currently subscribed to picsig as: lyris.picsig@tapr.org

To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

50. [picsig] Re: picsig digest: October 21, 1999

From: Bob Johnson <bobj@atlantic.net>
Date: Fri, 22 Oct 1999 02:00:55 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-46176-1999.10.22-01.15.45--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>>At 03:27 PM 10/21/99 -0500, I wrote:
>>>At 01:22 PM 10/21/99 -0500, James Jefferson wrote:
>>>
>>>>http://mavin.com/slickitems.html
>>>
>>>Odd - I get Connector Distribution Corporation's website.
>>>Anybody got Electo Mavin's telephone number? Or is there
>>>a different URL?

http://www.mavin.com/ is Connector Distribution Corporation's web site
http://mavin.com/ is Electro-Mavin's web site.

Since they have the same street address, I'd guess they are two divisions
of the same business, or two businesses owned by the same person.

-- Bob

+---
| Bob Johnson
| bobj@cisi.com
+---

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51. [picsig] Re: Mavin URL

From: hshk@ix.netcom.com (HSHK)
Date: Fri, 22 Oct 1999 11:49:07 GMT
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-46189-1999.10.22-07.00.24--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

There is an option in the setting for how often the browser
will refresh pages in its cache.

Change the setting to everytime.

This may help.

I experienced a similar problem a while back.

Good luck

Bill

de KA8VIT

On Thu, 21 Oct 1999 15:49:50 -0500, you wrote:

>At 03:27 PM 10/21/99 -0500, I wrote:
>>At 01:22 PM 10/21/99 -0500, James Jefferson wrote:
>>
>>>http://mavin.com/slickitems.html
>>
>>Odd - I get Connector Distribution Corporation's website.
>>Anybody got Electo Mavin's telephone number? Or is there
>>a different URL?
>
>How odd - I had to clear my history, location bar, and all caches from
>Netscrape 4.7 before I got to the right place.
>
>Ah well...
>
>BTW, as of a few minutes ago, they are completely OUT of the GPS
>units. Bummer...
>
>73/Kurt

```
>
>---
>Kurt Freiberger, WB5BBW   Network Environmentalist   Austin, TX
>As of right now, kurt@cs.tamu.edu should be changed to
>wb5bbw@airmail.net.  Forwarding will be in effect for a while.
>Rebecca Elspeth Freiberger was born 10 Sep 1999.  See her at
>http://www.realtime.net/~nancy2 for the latest news.  Yeah, I
>know, I haven't updated it often enough...
>
>---
>You are currently subscribed to picsig as: hshk@ix.netcom.com
>To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org


---
You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org
```

52. [picsig] mark/space polarity doesn't matter sometimes

From: James Jefferson <jjeffers@deskmedia.com>
Date: Fri, 22 Oct 1999 14:10:46 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-46256-1999.10.22-14.32.11--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi everyone,

I discovered something really neat today... Certain TNC's (KPC-3 and TASCO)
they don't care about mark vs space.

Take for example this (correct) code which sets the output going to the MX614:

```
if (i == tx_output)      /* Does the NRZI stuff */
        {
        tx_output = 1;
        output_low(TX_DATA);
        } else {
        tx_output = 0;
         output_high(TX_DATA);
        }
```

This works as well (incorrect):

```
if (i == tx_output)      /* Does the NRZI stuff */
        {
        tx_output = 1;
        output_high(TX_DATA);   /* notice difference from above */
        } else {
        tx_output = 0;
         output_low(TX_DATA);   /* notice difference from above */
        }
```

In order to tell if you are doing it right listen to the audio out of your
modem. If it is predominately high (ie 2200hz) then you are correct, if not
flip the polarity.

I spent quite a while debugging my code to see why it would copy on certain
TNC's, but not on others. It seems some DCD's (like N7CL's state machine)
need things the right polarity.

Interesting stuff - anyone care to comment on why?

-James Jefferson KB0THN

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

53. [picsig] Re: mark/space polarity doesn't matter sometimes

From: Bob Bruninga <bruninga@nadn.navy.mil>
Date: Fri, 22 Oct 1999 15:30:08 -0400 (EDT)
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-46258-1999.10.22-14.42.38--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Fri, 22 Oct 1999, James Jefferson wrote:

> I discovered something really neat today... Certain TNC's (KPC-3 and TASCO)
> they don't care about mark vs space.

ALL TNC's better not care about MARK/SPACE. THe NRZI used by AX.25
carries the data in the transitions, not the MARK or SPACE...

> In order to tell if you are doing it right listen to the audio out
> If it is predominately high (ie 2200hz) then you are correct, if not
> flip the polarity.

Not really true. Both should work equally well. If not, then check the
TNC you are using to receive with...

> I spent quite a while debugging my code to see why it would copy on certain
> TNC's, but not on others. It seems some DCD's (like N7CL's state machine)
> need things the right polarity.

I hope not...
de WB4APR, BOb

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54. [picsig] Re: mark/space polarity doesn't matter sometimes

From: "Dave VanHorn" <dvanhorn@cedar.net>
Date: Fri, 22 Oct 1999 14:41:10 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-46259-1999.10.22-14.55.26--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> > I discovered something really neat today... Certain TNC's (KPC-3 and
TASCO)
> > they don't care about mark vs space.

> I hope not... de WB4APR, BOb

This dosen't sound like a fun revelation!
I've noticed that my Pico sounds a lot different than my KPC-3 on the air,
yet they copy each other. The Pico has a predominantly high sound, the KPC
predominantly low.
Perhaps this is a glitch in the test setup?

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55. [picsig] Re: mark/space polarity doesn't matter sometimes

From: James Jefferson <jjeffers@deskmedia.com>
Date: Fri, 22 Oct 1999 15:01:08 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-46271-1999.10.22-15.40.56--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Bob Brunginga wrote:
>ALL TNC's better not care about MARK/SPACE. THe NRZI used by AX.25
>carries the data in the transitions, not the MARK or SPACE...

Interesting ... I knew posting it would get some responses. Goes to show
that I should investigate a little further before saying anything. Maybe I
was just looking for something to blame.

That means that NRZI has to start in a known state then, right?

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56. [picsig] Re: mark/space polarity doesn't matter sometimes

From: Laura Halliday <lha@sdr.utias.utoronto.ca>
Date: Fri, 22 Oct 1999 16:45:33 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-46274-1999.10.22-15.57.58--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 03:01 PM 22/10/99 -0500, James Jefferson wrote:

>That means that NRZI has to start in a known state then, right?

Nope. Only the changes matter. The whole idea of differential encoding is
to eliminate such requirements.

At worst you will lose the first bit. But that's what flags and such are for...

Laura Halliday VA3LDH   "Que les nuages soient notre pied
Grid: FN03gs   a terre..." - Hospital/Shafte

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57. [picsig] Re: mark/space polarity doesn't matter sometimes

From: Bob Bruninga <bruninga@nadn.navy.mil>
Date: Fri, 22 Oct 1999 16:57:47 -0400 (EDT)
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-46276-1999.10.22-16.10.17--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Fri, 22 Oct 1999, Dave VanHorn wrote:

> > > they don't care about mark vs space.
>
> > I hope not... de WB4APR, BOb
>
> This dosen't sound like a fun revelation!
> I've noticed that my Pico sounds a lot different than my KPC-3 on the air,
> yet they copy each other. The Pico has a predominantly high sound, the KPC
> predominantly low.
> Perhaps this is a glitch in the test setup?

No, some TNC's send FLAGS and others send 1/0 transitions during the TXD
delay...
bob

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58. [picsig] Re: Mavin URL

From: Robert Winingham <kc5ejk@onramp.net>
Date: Fri, 22 Oct 1999 16:09:40 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-46279-1999.10.22-16.21.29--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>I'd like to pick up one of those GPS units before they run out
>but I can't find the URL now. Could someone please forward it
>to me?

Kind of make you wish this SIG was archived doesn't it ,so you don't loose
time waiting for a reply when time is important or it's 2 am in the morning.

:->) or what ever the official sarcastic icon is .

-----   kc5ejk@onramp.net   or kc5ejk@amsat.org   -----

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59. [picsig] Mark/Space.

From: INFORMATION RESTRICTED <kc7vdg@earthlink.net>
Date: Fri, 22 Oct 1999 14:42:19 -0700
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-46289-1999.10.22-17.00.36--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I have noticed that each time my KPC transmits, it switches from Mark to
Space alternately each time it keys it starts on one then the other, so
I guess it doesn't really matter!

Kurt

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60. [picsig] Re: Mavin URL

From: "Bob Hansen" <bhansen@stny.rr.com>
Date: Sat, 23 Oct 1999 13:38:18 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-46360-1999.10.23-12.49.07--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

The mail archive for this list is available at
ftp://ftp.tapr.org/picsig/mail_archive/

-Bob H.

> Kind of make you wish this SIG was archived doesn't it ,so you don't loose
> time waiting for a reply when time is important or it's 2 am in
> the morning.

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61. [picsig] PIC-E FRAM mod

From: "Mike Berg" <mikeberg@midstate.tds.net>
Date: Sat, 23 Oct 1999 16:18:01 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-46379-1999.10.23-16.30.01--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Souping up your PIC-E...

I wrote a packet receive program to go with a PIC-E mod
I've included, which allows the PIC-E to receive and display
entire packets up to 255 bytes on a Palm PDA w/PalmAPRS.
It's at :
    ftp://ftp.tapr.org/picsig/software

This differs from my previous code which would only copy
up to 53 bytes of each packet due to the 16F84's limited memory.
The mod is non-destructive and adds the 8 pin Ramtron 2k serial
FRAM IC to the PIC-E using a small daughterboard and 6 pin
connector / harness. I used a 6 pin MTA .100 AMP brand
connector and housing because I had access to the crimp tool and
28 ga hookup wire.
You can use your imagination as the main requirement is
being able to disconnect the FRAM daughterboard - which
I made from solder ringed proto board, from the PIC-E pcb.
 The whole works tucks neatly within the Radio Shack case.

The text file RAMPICER.TXT explains the mod and installing.
RAMPICER.ASM is the program assembly code.

I obtained my FM25160 chips as samples from Ramtron thru my
employer. The Ramtron web page http://www.ramtron.com/
says you can order them for about $3 each and most states have
a local distributor listed on the page as well.

I also added a 1/8" audio jack coupled to the receive audio path
with a 1 uF capacitor. This makes it easy to set up a very
portable monitor/tracking station using a handheld, modified
PIC-E and a PalmPilot running PalmAPRS.

73 Mike Berg N0QBH
* As with all mods, this is "at your own risk".

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62. [picsig] pic-e trouble

From: "Mark E. Bender" <mbender@ix.netcom.com>
Date: Mon, 25 Oct 1999 07:30:16 -0700
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-46585-1999.10.25-09.40.56--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Pic-E users,

I recently constructed the PIC-E kit. After careful construction, I performed the voltage
checks (w/o IC's installed) and all looked good. After installing the IC's, I attempted
to load the Pic-diag program utilizing the PicProg program. No joy. I receive a message
saying "Initialization failure - check programmer or comm port."

I am using com1 (no problem there...) and a straight through DB-9 cable. I have now
tried to program with jumper JP4 in and out, with serial cable lengths from 6 inches
to 6 feet, all to no avail. I have tried different machines in case I encountered weak
RS-232 drivers in one machine.

Am I looking at a bad pic chip? I have double and triple checked the parts placement.
I see no solder bridges, etc. All diodes are correctly placed, as are the electrolytics
and the tantalums.

Can anyone offer suggestions?

Mark Bender
kd6not

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63. [picsig] Re: pic-e trouble

From: Robert Winingham <kc5ejk@onramp.net>
Date: Mon, 25 Oct 1999 14:16:39 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-46593-1999.10.26-09.25.46--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>Pic-E users,
>
>I recently constructed the PIC-E kit. After careful construction, I performed the voltage
>checks (w/o IC's installed) and all looked good. After installing the IC's, I attempted
>to load the Pic-diag program utilizing the PicProg program. No joy. I receive a message
>saying "Initialization failure - check programmer or comm port."

A supply of pre-programmed PIC chips with the diag program already loaded might
be a good resource for people having start up problem.

Might be a good idea for TAPR a second chip pre-coded for an extra $10
in the original PIC kit order.

My kit works but I was not able to program the PIC using a RS-232 PCMCIA serial card
as the I/O port on my Mac running softwindows.

73

----- kc5ejk@onramp.net or kc5ejk@amsat.org -----

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64. [picsig] Re: pic-e trouble

From: Pokey <sdewell@speedchoice.com>
Date: Mon, 25 Oct 1999 22:47:54 -0700
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-46612-1999.10.26-09.36.52--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Mark,
        I forgot to mention another little pitfall. If you have a Palm Pilot
(as I do) the hotsync program will tie up your comport and when you try to
program your pic it will give you that exact message. Been there done that.
You must exit this type Win95 system tray program that watchs/uses the
comport you have the PIC-E hooked to.

Steven L. DeWell KB7NKB

"Mark E. Bender" wrote:

> Pic-E users,
>
> I recently constructed the PIC-E kit. After careful construction, I
> performed the voltage
> checks (w/o IC's installed) and all looked good. After installing the
> IC's, I attempted
> to load the Pic-diag program utilizing the PicProg program. No joy. I
> receive a message
> saying "Initialization failure - check programmer or comm port."
>
> I am using com1 (no problem there...) and a straight through DB-9 cable.
> I have now
> tried to program with jumper JP4 in and out, with serial cable lengths
> from 6 inches
> to 6 feet, all to no avail. I have tried different machines in case I
> encountered weak
> RS-232 drivers in one machine.
>
> Am I looking at a bad pic chip? I have double and triple checked the
> parts placement.
> I see no solder bridges, etc. All diodes are correctly placed, as are
> the electrolytics
> and the tantalums.
>
> Can anyone offer suggestions?
>
> Mark Bender
> kd6not
>
> ---
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---
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65. [picsig] Re: pic-e trouble

From: Pokey <sdewell@speedchoice.com>
Date: Mon, 25 Oct 1999 22:14:49 -0700
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-46613-1999.10.26-09.36.57--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Mark,
        I am not involved with the PIC-E or its design. I have talked to
some of those who are though. I have also reviewed the schematics and have
had personal experiance with 16f84's and programming them.
        My advice would be to use the check hardware function in the program
picprog. Look for it under the setup popdown while the program is running.
Then when VDD is checked "on" measure your mclr* (pin4) voltage on the pic.
On the PIC-E it looks like it should be around 10Volts.
          I recently purchased several 16f84's from DigiKey that gave me
programming grief. I was finally able to program them but had to apply the
manufactor's spec'd 13 volts to the mclr* pin.
          The Ludi type programmers did not work. The PIC-E uses a built in
Ludi type programmer. They use the rs232 level of approx 10 volts on the
mclr* pin. This is fudging it a bit and its fun and cheap if you can get
away with it.

If you have any questions email me.
Steven L. DeWell KB7NKB
73's

"Mark E. Bender" wrote:

> Pic-E users,
>
> I recently constructed the PIC-E kit. After careful construction, I
> performed the voltage
> checks (w/o IC's installed) and all looked good. After installing the
> IC's, I attempted
> to load the Pic-diag program utilizing the PicProg program. No joy. I
> receive a message
> saying "Initialization failure - check programmer or comm port."
>
> I am using com1 (no problem there...) and a straight through DB-9 cable.
> I have now
> tried to program with jumper JP4 in and out, with serial cable lengths
> from 6 inches
> to 6 feet, all to no avail. I have tried different machines in case I
> encountered weak
> RS-232 drivers in one machine.
>
> Am I looking at a bad pic chip? I have double and triple checked the
> parts placement.
> I see no solder bridges, etc. All diodes are correctly placed, as are
> the electrolytics
> and the tantalums.
>
> Can anyone offer suggestions?
>
> Mark Bender
> kd6not
>
> ---
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66. [picsig] Re: pic-e trouble

From: "Steven R. Bible" <srbible@gate.net>
Date: Mon, 25 Oct 1999 18:06:13 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-46616-1999.10.26-09.39.29--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>Can anyone offer suggestions?

Mark,

When you program the PIC-E with PicProg, and JMP4 removed, do you see the
Green power LED slightly glow?

- Steve, N7HPR
  n7hpr@tapr.org
  n7hpr@amsat.org

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67. [picsig] Re: pic-e trouble

From: Mark Bender <mbender@ix.netcom.com>
Date: Tue, 26 Oct 1999 12:54:12 -0700
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-46716-1999.10.26-15.00.45--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Steve,

I am not able to program the Pic-E at all. When I hit the program button, I almost
immediately get the " Initialization error - check programmer or com port".

Now I have actually watched for any signs of led activity during the attempts, and
have not noted any flicker, dimming, etc (with JP-4 on or off.).

Are there specific points to test (voltage...) while making the attempt? All of the
machines I have tried with are IBM compatibles (well... one was a true blue.)

Also, I assume I should use a straight through - not null cable - to program.

 I am a bit frustrated because this project has a low
parts count and I was excited to try it out! I does not appear that their is much
in the way of discrete components that sit between the RS-232 port and the
actual pic chip itself.

Again, thanks in advance for the help.

Mark Bender

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68. [picsig] $25 Web Server

From: "Bob Hansen" <bhansen@stny.rr.com>
Date: Tue, 26 Oct 1999 21:42:55 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-46765-1999.10.26-20.53.30--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Circuit Cellar Online has an article on how to build a $25 Web Server.
It uses an Atmel AT90S8515 microcontroller and a standard ISA ethernet card.
Unlike the PIC-based server which got some press a couple of months ago, this
one is for real. The article includes the schematic and the software is
available for downloading.
Check it out at:
http://www.chipcenter.com/circuitcellar/july99/c79bl1.htm

-Bob H.

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

69. [picsig] Re: pic-e trouble

From: Pokey <sdewell@speedchoice.com>
Date: Tue, 26 Oct 1999 21:10:44 -0700
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-46779-1999.10.26-23.16.56--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Mark,
	If you have a DVM I would check pin4 while running the hardware checks in PICPROG. This is something you can run without attempting to program the pic. Just start PICPROG and click on the word setup under the title bar. Under the popdown menu you should see the "hardware check" item. Select it. Then select the VDD box. This allows you to turn on the VDD or +5volts. This is the only box you need to check. If the VDD checkbox is ghosted out and non selectable some other program is using your comport. This must be cleared up before you can do anything else.
	If you seleceted VDD you actually activated the 10 Volt level out of the PC's RS232 port. It is from this 10V that we get the programming voltage applied to pin 4 of the Pic chip (u1). We also take this voltage and convert it to the +5p (VDD) as seen on the PIC-E schematic. The component D2 is the device that is regulating the drop from 10V to 5V (+5p) that we want for pin 14 on the Pic chip. R5 isolates the 10Volts on the Pic chip pin 4 from the +5p volts on pin 14.
	So by checking off the Vdd box in the PICPROG's setup check hardware box

we can check for these two voltages. Without these two voltages you will never get your PIC-E to program.
        I am not sure about this but I could see where having a 22k resistor in the place of R5 instead of a 2.2k resistor would sufficently limit the amount of current the Pic chip could draw and might cause problems so check that out. Also the writting on the diodes can be small as heck and they could be swapped. Checking those voltages for correct levels will make sure that D1 and D2 are not swapped. This would cause some problems as well.
       I realize I may be longwinded here but I have no other knowledge of your electronics experiance other that the fact your a HAM. So please take no offense.

        Let me know the results of your testing. If everything checks out we will continue from there. Good luck and have fun. The reward is in the "Gotcha!" when you figure it out.

Steven L. DeWell KB7NKB

Mark Bender wrote:

> Steve,
>
> I am not able to program the Pic-E at all. When I hit the program button, I
> almost
> immediately get the " Initialization error - check programmer or com port".
>
> Now I have actually watched for any signs of led activity during the
> attempts, and
> have not noted any flicker, dimming, etc (with JP-4 on or off.).
>
> Are there specific points to test (voltage...) while making the attempt? All
> of the
> machines I have tried with are IBM compatibles (well... one was a true blue.)
>
> Also, I assume I should use a straight through - not null cable - to program.
>
> I am a bit frustrated because this project has a low
> parts count and I was excited to try it out! I does not appear that their is
> much
> in the way of discrete components that sit between the RS-232 port and the
> actual pic chip itself.
>
> Again, thanks in advance for the help.
>
> Mark Bender
>
> ---
> You are currently subscribed to picsig as: sdewell@speedchoice.com
> To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

---
You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

70. [picsig] Re: pic-e trouble

From: "Mark E. Bender" <mbender@ix.netcom.com>
Date: Tue, 26 Oct 1999 23:17:29 -0700
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-46822-1999.10.27-01.28.14--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Steve DeWell,

Thanks for the information. I was contacted by Steve Bible, and your suggestions mirror his very closely. I appreciate the detail of your explanations. I am working through these suggestions right now (2315 hrs west coast time...)

I will give you a holler when I get to that "gotcha" point.

Thanks again...

Mark Bender

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71. [picsig] Re: picsig digest: October 26, 1999

From: "Marcelo Puhl" <mark@plug-in.com.br>
Date: Wed, 27 Oct 1999 10:45:30 -2
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-46847-1999.10.27-07.59.06--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> Subject: Re: pic-e trouble
> From: Pokey <sdewell@speedchoice.com>
> Date: Mon, 25 Oct 1999 22:14:49 -0700
> X-Message-Number: 4
>
> Mark,
> I am not involved with the PIC-E or its design. I have talked to
> some of those who are though. I have also reviewed the schematics and have
> had personal experiance with 16f84's and programming them.
> My advice would be to use the check hardware function in the
> program
> picprog. Look for it under the setup popdown while the program is running.
> Then when VDD is checked "on" measure your mclr* (pin4) voltage on the
> pic. On the PIC-E it looks like it should be around 10Volts.
> I recently purchased several 16f84's from DigiKey that gave me
> programming grief. I was finally able to program them but had to apply the
> manufactor's spec'd 13 volts to the mclr* pin.
> The Ludi type programmers did not work. The PIC-E uses a built
> in
> Ludi type programmer. They use the rs232 level of approx 10 volts on the
> mclr* pin. This is fudging it a bit and its fun and cheap if you can get
> away with it.
>
> If you have any questions email me.
> Steven L. DeWell KB7NKB
> 73's
>

Hi,

I had exactly the same problem here and solved it just applying an external
+5V to PIC's VCC instead of rising the MCLR programming voltage.

With an osciloscope you can see two dropouts on the Ludi VCC line at the
beggining of the process.

I take the +5V from inside the PC. Worked just fine.

Marcelo Puhl
mark@plug-in.com.br

Get paid to surf the WEB !
Ganhe dinheiro enquanto surfa na Internet !
http://alladvantage.com/go.asp?refid=DTJ608

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

72. [picsig] Re: pic-e trouble

From: Bill Hosking <William_Hosking-P05328@email.mot.com>
Date: Wed, 27 Oct 1999 11:38:07 -0700
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-46876-1999.10.27-13.50.49--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Like several others, I had the same problem with the pic-e programming.
I chose not to fight it for the moment and spent $5(or less) building
the programmer out of the October 1998 QST. It has worked perfectly with
every 16F84 I have tried. Took a whole 20 minutes to build.

73,
Bill Hosking, W7JSW

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

73. [picsig] Re: pic-e trouble

From: "Steven R. Bible" <n7hpr@amsat.org>
Date: Wed, 27 Oct 1999 14:57:55 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-46878-1999.10.27-14.15.16--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Bill,

I am not aware of the "several others" that have (or had) problems programming the PIC on the PIC-E. The one known problem has been laptops, and that was identified during the PIC-E's evaluation phase. And there was that one PIC that was on the high end of the specs that refused to program in any PIC-E. Once we swapped it out, the PIC-E programmed fine.

Of those that have had problems programming their PIC-E's most (if not all) have resolved the problem. There has been cases of bad cables, a blob of solder shorting a trace, and the ubiquitous steep learning curve.

The programmer on the PIC-E is identical to the one in the October 1998 QST article. The article was written by John Hansen, W2FS, and he was one of the PIC-E team members. I would expect (and hope) that your PIC-E would program the 'F84 just as well as the QST article one. Please take another look.

And if there are people out there having (or still having) problems programming their PIC-Es please let us know. Without feedback it is difficult to improve the product. The feedback that I have received so far is that there are a lot of happy PIC-E programmers out there.

- Steve N7HPR

----- Original Message -----
From: Bill Hosking <William_Hosking-P05328@email.mot.com>
To: TAPR PIC Development Special Interest Group <picsig@lists.tapr.org>
Sent: Wednesday, October 27, 1999 2:38 PM
Subject: [picsig] Re: pic-e trouble

> Like several others, I had the same problem with the pic-e programming.
> I chose not to fight it for the moment and spent $5(or less) building
> the programmer out of the October 1998 QST. It has worked perfectly with
> every 16F84 I have tried. Took a whole 20 minutes to build.
>
> 73,
> Bill Hosking, W7JSW
>
> ---
> You are currently subscribed to picsig as: srbible@gate.net
> To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org
>
>

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

74. [picsig] Re: pic-e trouble

From: James Jefferson <jjeffers@deskmedia.com>
Date: Wed, 27 Oct 1999 16:56:29 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-46904-1999.10.27-17.09.54--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>The programmer on the PIC-E is identical to the one in the October 1998 QST
>article. The article was written by John Hansen, W2FS, and he was one of
>the PIC-E team members. I would expect (and hope) that your PIC-E would
>program the 'F84 just as well as the QST article one. Please take another
>look.

That's not quite true ... the one on the PICE is running other stuff then just the 16F84 ... I don't have the schematic in front of me at the momment - but I know that the PICE programmer runs at least an LED and maybe even the MX614. That draws even more current in an already marginal (at best) situation.

-James

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

75. [picsig] Re: pic-e trouble

From: "Steven R. Bible" <srbible@gate.net>
Date: Wed, 27 Oct 1999 19:13:31 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-46914-1999.10.27-18.26.18--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

James,

That is why we installed JMP4, to remove power from all the other
circuitry. JMP4 facilitates those serial ports that don't have enough umph
to program the PIC. And that fact has been borne out by users. Many of
which could not program the PICs with JMP4 installed and could with it removed.

And yes, the green power-on LED is in the circuit. It serves as a visual
clue that the PIC is programming.

- Steve

At 04:56 PM 10/27/99 -0500, you wrote:
> >The programmer on the PIC-E is identical to the one in the October 1998 QST
> >article. The article was written by John Hansen, W2FS, and he was one of
> >the PIC-E team members. I would expect (and hope) that your PIC-E would
> >program the 'F84 just as well as the QST article one. Please take another
> >look.
>
>That's not quite true ... the one on the PICE is running other stuff then
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>- but I know that the PICE programmer runs at least an LED and maybe even
>the MX614. That draws even more current in an already marginal (at best)
>situation.
>
>-James
>
>---
>You are currently subscribed to picsig as: srbible@gate.net
>To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

- Steve, N7HPR
   n7hpr@tapr.org
   n7hpr@amsat.org

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76. [picsig] Re: picsig digest: October 26, 1999

From: "Steven R. Bible" <srbible@gate.net>
Date: Wed, 27 Oct 1999 19:18:53 -0400
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-46917-1999.10.27-18.31.38--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 10:45 AM 10/27/99 +00-02, you wrote:
> > Subject: Re: pic-e trouble
> > From: Pokey <sdewell@speedchoice.com>
> > Date: Mon, 25 Oct 1999 22:14:49 -0700
> > X-Message-Number: 4
> >
> > Mark,
> >   I am not involved with the PIC-E or its design. I have talked to
> > some of those who are though. I have also reviewed the schematics and have
> > had personal experiance with 16f84's and programming them.
> >   My advice would be to use the check hardware function in the
> >   program
> > picprog. Look for it under the setup popdown while the program is running.
> > Then when VDD is checked "on" measure your mclr* (pin4) voltage on the
> > pic. On the PIC-E it looks like it should be around 10Volts.
> >   I recently purchased several 16f84's from DigiKey that gave me
> > programming grief. I was finally able to program them but had to apply the
> > manufactor's spec'd 13 volts to the mclr* pin.
> >   The Ludi type programmers did not work. The PIC-E uses a built

> >   in
> > Ludi type programmer. They use the rs232 level of approx 10 volts on the
> > mclr* pin. This is fudging it a bit and its fun and cheap if you can get
> > away with it.
> >
> > If you have any questions email me.
> > Steven L. DeWell KB7NKB
> > 73's
> >
>
>Hi,
>
>I had exactly the same problem here and solved it just applying an external
>+5V to PIC's VCC instead of rising the MCLR programming voltage.
>
>With an osciloscope you can see two dropouts on the Ludi VCC line at the
>beggining of the process.
>
>I take the +5V from inside the PC. Worked just fine.

What's interesting about the Ludi programmer is that it takes advantage of
another programming requirement of the PIC16F84, that Vpp/MCLR* and Vdd be
at least 4 volts difference. Even though Vpp is not brought to +13V as the
programming specs calls for, it appears that the PIC will still program
with less than that "provided" the difference is there. Yet, during the
eval process, we had one PIC that wouldn't programming even in a known good
PIC-E. the user sent it to me and I could only program it in my Microchip
PicStart Plus programmer.

- Steve, N7HPR
   n7hpr@tapr.org
   n7hpr@amsat.org

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

77. [picsig] Re: pic-e trouble

From: Mark Bender <mbender@ix.netcom.com>
Date: Wed, 27 Oct 1999 16:38:31 -0700
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-46926-1999.10.27-18.45.25--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I want to publicly thank Steve Bible and TAPR for the patience Steve bestowed upon
me
during a problem with the PIC-E kit I purchased. Due to an embarassingly simple
mistake
on my part I took up a few hours of Steve's time while troubleshooting the PIC-E.

The kit now performes as advertised, and I have encountered no problems at all
programming
the Pic chip from 3 or 4 different PC's.

Thanks again Steve, your understanding and help was deeply appreciated.

Mark Bender
KD6NOT

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

78. [picsig] Re: pic-e trouble <LYR11446-46926-1999.10.27-18.45.25--rdrines#pacbell.net@lists.tapr.org>

From: "Roger D. Rines" <rdrines@pacbell.net>
Date: Wed, 27 Oct 1999 17:06:24 -0700
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-46934-1999.10.27-19.15.47--lyris.picsig#tapr.org@lists.tapr.org>

Rendered body type: text/plain

Did mark say what was wrong?

Roger...
mailto:rdrines@pacbell.net

-----Original Message-----
From: bounce-picsig-11446@lists.tapr.org
[mailto:bounce-picsig-11446@lists.tapr.org]On Behalf Of Mark Bender
Sent: Wednesday, October 27, 1999 4:39 PM
To: TAPR PIC Development Special Interest Group
Subject: [picsig] Re: pic-e trouble

I want to publicly thank Steve Bible and TAPR for the patience Steve
bestowed upon
me
during a problem with the PIC-E kit I purchased. Due to an
embarassingly simple
mistake
on my part I took up a few hours of Steve's time while
troubleshooting the PIC-E.

The kit now performes as advertised, and I have encountered no
problems at all
programming
the Pic chip from 3 or 4 different PC's.

Thanks again Steve, your understanding and help was deeply
appreciated.

Mark Bender
KD6NOT

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

79. [picsig] Re: pic-e trouble <LYR11446-46926-1999.10.27-18.45.25--rdrines#pacbell.net@lists.tapr.org>

From: Mark Bender <mbender@ix.netcom.com>
Date: Wed, 27 Oct 1999 17:29:55 -0700
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-46935-1999.10.27-19.36.43--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Roger (and the Sig),

The "problem" I had with the kit was MY problem, in that I substituted a
DB9 male for the DB9 female male position on the board as a matter of pure

convenience. I had a serial cable (used for multiple purposes) that ended
in
a female.

Thus, by changing the DB9 program position to a male, it INVERTS all of the

pins (1 is now 5, 2 is 4, etc.) I was aware of this but it was not brought
to the
conscious level until the next morning. I am ashamed to say that Steve
helped
me troubleshoot (never knowing what I had created) the problem and
explained
what voltages I should see at different points, all the while scratching
his head
in wonder at how certain voltages appeared here and there.

Yep, this is one of those "that was really stupid" things that I am guilty
of every
now and then...

Mark Bender, kd6not
_____-

"Roger D. Rines" wrote:

> Did mark say what was wrong?
>

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

80. [picsig] Re: pic-e trouble<LYR11446-46926-1999.10.27-18.45.25--rdrines#pacbell.net@lists.tapr.org> <LYR11446-46935-1999.10.27-19.36.43--rdrines#pacbell.net@lists.tapr.org>

From: "Roger D. Rines" <rdrines@pacbell.net>
Date: Wed, 27 Oct 1999 17:37:53 -0700
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-46936-1999.10.27-19.47.04--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Thanks for responding Mark.

Knowing what not to do is as important as knowing what not to do
sometimes. I'm about to put my Pic-E together so I've been following
these threads closely because I tend to experiment and don't want to
repave any good roads.

Roger...
mailto:rdrines@pacbell.net

-----Original Message-----
From: bounce-picsig-11446@lists.tapr.org
[mailto:bounce-picsig-11446@lists.tapr.org]On Behalf Of Mark Bender
Sent: Wednesday, October 27, 1999 5:30 PM
To: TAPR PIC Development Special Interest Group
Subject: [picsig] Re: pic-e
trouble<LYR11446-46926-1999.10.27-18.45.25--rdrines#pacbell.net@lists
.ta
pr.org>

Roger (and the Sig),

The "problem" I had with the kit was MY problem, in that I
substituted a
DB9 male for the DB9 female male position on the board as a matter
of pure

convenience. I had a serial cable (used for multiple purposes) that
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a female.

Thus, by changing the DB9 program position to a male, it INVERTS all
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what voltages I should see at different points, all the while
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in wonder at how certain voltages appeared here and there.

Yep, this is one of those "that was really stupid" things that I am
guilty
of every
now and then...

Mark Bender, kd6not
_____-

"Roger D. Rines" wrote:

> Did mark say what was wrong?
>

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To unsubscribe send a blank email to
leave-picsig-6890E@lists.tapr.org

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

81. [picsig] Re: pic-e trouble <LYR11446-46926-1999.10.27-18.45.25--rdrines#pacbell.net@lists.tapr.org>

From: "John B. Leonard, Jr." <jleonard@tbcnet.com>
Date: Wed, 27 Oct 1999 21:45:20 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-46952-1999.10.27-21.59.04--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

i ... think ... i... just ... found... my ... problem....

Thanks Mark!

jbl
---
jb leonard jr/W9JBL
De Kalb IL
jleonard@tbcnet.com

----- Original Message -----
From: Mark Bender <mbender@ix.netcom.com>
To: TAPR PIC Development Special Interest Group <picsig@lists.tapr.org>
Sent: Wednesday, October 27, 1999 7:29 PM
Subject: [picsig] Re: pic-e trouble
<LYR11446-46926-1999.10.27-18.45.25--rdrines#pacbell.net@lists.tapr.org>

> Roger (and the Sig),
>
> The "problem" I had with the kit was MY problem, in that I substituted a
> DB9 male for the DB9 female male position on the board as a matter of
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> conscious level until the next morning. I am ashamed to say that Steve
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> me troubleshoot (never knowing what I had created) the problem and
> explained
> what voltages I should see at different points, all the while scratching
> his head
> in wonder at how certain voltages appeared here and there.
>
> Yep, this is one of those "that was really stupid" things that I am guilty
> of every
> now and then...
>
> Mark Bender, kd6not
> _____-
>
> "Roger D. Rines" wrote:
>
> > Did mark say what was wrong?
> >
>
>
> ---

> You are currently subscribed to picsig as: jleonard@tbcnet.com
> To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

---
You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

November 1999

Original source file: picsig.9911
Source: http://ftp.tapr.org/tapr_history/SIG_Archives/picsig/mail_archive/picsig.9911

1. [picsig] voltage checks

From: arthur coulombe <w7hgk@innw.net>
Date: Sun, 31 Oct 1999 22:56:24 -0800
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-47639-1999.11.01-05.11.23--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Greetings:

Having completed the assembly of the pic board. I've checkout the
voltage with power on P3 and all is well. However, with the unit powered
up by the serial port at no load at P2 pins 3&4 at (-) 10 vdc and
attached to the pic at (-) 7vdc HUM at the 16f84 pins 14 - 0,50vdc and
pin4 -0.4vdc. What am I missing here?

my goal is to attach to a GPS

"old tmer" tnx's Art

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

2. [picsig] Interfacing with a Delorme Earthmate <LYR11446-47639-1999.11.01-05.11.23--rdrines#pacbell.net@lists.tapr.org>

From: "Roger D. Rines" <rdrines@pacbell.net>
Date: Mon, 01 Nov 1999 20:20:28 -0800
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-47767-1999.11.01-22.34.31--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Is there any information available on interfacing the Delorme
Earthmate receiver to the Pic-E?

Thanks,
Roger...
WB1CFQ
mailto:rdrines@pacbell.net

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

3. [picsig] Re: Interfacing with a Delorme Earthmate

From: Robert Winingham <kc5ejk@onramp.net>
Date: Mon, 1 Nov 1999 22:41:52 -0600
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-47771-1999.11.01-22.53.49--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>Is there any information available on interfacing the Delorme
>Earthmate receiver to the Pic-E?
>
>Thanks,
>Roger...
>WB1CFQ
>mailto:rdrines@pacbell.net
>
>

Should not be a problem as long as you use the other PIC PCB that
converts the Earthmates binaryolny output to NMEA.
I see a lot of old Tripmates
on the shelf in the MAC section of the stores.

73

----- kc5ejk@onramp.net or kc5ejk@amsat.org -----

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

4. [picsig] Re: Interfacing with a Delorme Earthmate <LYR11446-47639-1999.11.01-05.11.23--rdrines#pacbell.net@lists.tapr.org>

From: "KC5GOI" <kc5goi@kc5goi.net>
Date: Tue, 2 Nov 1999 00:25:08 -0600
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Cc: <rdrines@pacbell.net>
Message-ID: <LYR6890-47786-1999.11.02-00.39.33--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Roger, to make the pic-e work with the Earthmate you need to obtain the
GST-1. It converts the Rockwell format to NMEA0183. You can find it at
http://www.byonics.com/gst-1/index.html

73, Guy Story
kc5goi@kc5goi.net
http://www.kc5goi.net
940.243.0754
----- Original Message -----
From: Roger D. Rines <rdrines@pacbell.net>
To: TAPR PIC Development Special Interest Group <picsig@lists.tapr.org>
Sent: Monday, November 01, 1999 10:20 PM
Subject: [picsig] Interfacing with a Delorme Earthmate
<LYR11446-47639-1999.11.01-05.11.23--rdrines#pacbell.net@lists.tapr.org>

> Is there any information available on interfacing the Delorme
> Earthmate receiver to the Pic-E?
>
> Thanks,
> Roger...
> WB1CFQ
> mailto:rdrines@pacbell.net
>
>
> ---
> You are currently subscribed to picsig as: kc5goi@infospeedway.net
> To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

---
You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

5. [picsig] Re: Interfacing with a Delorme Earthmate <LYR11446-47639-1999.11.01-05.11.23--rdrines#pacbell.net@lists.tapr.org>

From: "Steven R. Bible" <n7hpr@amsat.org>
Date: Tue, 2 Nov 1999 12:37:18 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-47811-1999.11.02-11.50.20--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Roger,

The Earthmate does not do NMEA but instead the proprietary Rockwell Zodiac
binary format. The PIC-E can be programmed to interface the Earthmate, but
what I have found is that the PIC16F84 does not have enough Flash ROM for
the conversion program. The crutch of the problem is that the Earthmate Lat
and Long in Zodiac binary format is in radians. You must convert radians to
degrees, minutes, seconds for the NMEA format. To get enough resolution you
need to use 32-bit floating point math. The PIC can do this with no
problem, it's just that (in the case of the PIC16F84 1K or ROM) you run out
of room.

I've managed to code the conversion routine from Zodiac binary to NMEA in a
PIC16C622 (which has 2K ROM), but that means you need a separate programmer,
etc. And it is not flash. Marrying this code to Byon's PICE090 code should
be easy. And the PIC16C622 is pin-for-pin the PIC16F84 and thus a drop in
replacement.

And as mentioned previously, Byon has created the GST-1 that does the Zodiac
to NMEA conversion. You can see it at http://www.byonics.com.

- Steve N7HPR

----- Original Message -----
From: Roger D. Rines <rdrines@pacbell.net>
To: TAPR PIC Development Special Interest Group <picsig@lists.tapr.org>
Sent: Monday, November 01, 1999 11:20 PM
Subject: [picsig] Interfacing with a Delorme Earthmate
<LYR11446-47639-1999.11.01-05.11.23--rdrines#pacbell.net@lists.tapr.org>

> Is there any information available on interfacing the Delorme
> Earthmate receiver to the Pic-E?
>
> Thanks,
> Roger...
> WB1CFQ
> mailto:rdrines@pacbell.net

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

6. [picsig] Old PIC-E boards

From: bj382@scn.org (Hank Riley)
Date: Tue, 2 Nov 1999 10:49:07 -0800 (PST)
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-47818-1999.11.02-12.58.22--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Steve,

I'v asked you twice before in email in the last month a simple
question and have never received any response, so I'm trying
through the list.

I would like to know if TAPR would sell the old prototype PIC-E
boards (like a few people got by mistake recently) to those of us
who don't need a perfect finished board.

Hank

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

7. [picsig] Re: Old PIC-E boards

From: Tim Salo <salo@networkcs.com>
Date: Tue, 2 Nov 1999 13:03:28 -0600 (CST)
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-47820-1999.11.02-13.16.25--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> Date: Tue, 2 Nov 1999 10:49:07 -0800 (PST)
> From: bj382@scn.org (Hank Riley)
> Subject: [picsig] Old PIC-E boards
>
> I would like to know if TAPR would sell the old prototype PIC-E
> boards (like a few people got by mistake recently) to those of us
> who don't need a perfect finished board.

Just the bare board, or do you want parts as well?

How many boards do you want? One? Ten? A hundred?

How much less than the cost of the current kit or board do you want
to pay? I doubt that the cost of a kit with an old board could be
much less than the cost of a kit with a new board.

Is your objective primarily to save a few bucks? If so, how many bucks?
How much labor should TAPR volunteers invest to help you save this amount?

-tjs

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8. [picsig] Re: Old PIC-E boards

From: John Hansen <hansen@fredonia.edu>
Date: Tue, 02 Nov 1999 15:26:27 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-47823-1999.11.02-14.42.52--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 01:03 PM 11/2/99 -0600, you wrote:
> > Date: Tue, 2 Nov 1999 10:49:07 -0800 (PST)
> > From: bj382@scn.org (Hank Riley)
> > Subject: [picsig] Old PIC-E boards
> >
> > I would like to know if TAPR would sell the old prototype PIC-E
> > boards (like a few people got by mistake recently) to those of us
> > who don't need a perfect finished board.
>
>Just the bare board, or do you want parts as well?
>
>How many boards do you want? One? Ten? A hundred?
>
>How much less than the cost of the current kit or board do you want
>to pay? I doubt that the cost of a kit with an old board could be
>much less than the cost of a kit with a new board.
>
>Is your objective primarily to save a few bucks? If so, how many bucks?
>How much labor should TAPR volunteers invest to help you save this amount?
>
>-tjs

Whoa, hang on a minute. He asked a reasonable question here. Hank just
wants to know if the defective boards are for sale. The answer may well be
"no", but its not an unreasonable question. TAPR presumably has some
boards that it can't sell as part of kits because they are
defective. Hank's suggesting he'd give TAPR some money for them. TAPR
might decide it is in its interest to throw the boards away on the theory
that selling them might cut into future PIC-E sales. Or TAPR might decide
it is useful to convert those boards into whatever cash they can. Either
of these strategies may well be a reasonable one to pursue. Hank's just
asking which one TAPR wants to pick. That's not an unreasonable question
to ask.

Seems like everybody (unfortunately including me!) is so quick to take
offense these days....

John, W2FS

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

9. [picsig] Re: voltage checks

From: "Steven R. Bible" <srbible@gate.net>
Date: Tue, 02 Nov 1999 16:41:15 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-47833-1999.11.02-15.57.05--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 10:56 PM 10/31/99 -0800, you wrote:
>   Greetings:
>
>Having completed the assembly of the pic board. I've checkout the
>voltage with power on P3 and all is well. However, with the unit powered
>up by the serial port at no load at P2 pins 3&4 at (-) 10 vdc and
>attached to the pic at (-) 7vdc HUM at the 16f84 pins 14 - 0,50vdc and
>pin4 -0.4vdc. What am I missing here?
>
>my goal is to attach to a GPS
>
>"old tmer" tnx's Art

Hello Art,

All looks okay. What you need to do is go further. Did you program the PIC
with the DIAG program?

If you use the PICPROG program you can try a few more voltage checks.

The PICPROG program has a hardware check facility. Bring up PICPROG and
select "Setup" from the menu bar and select "Hardware Check".

Above you said you saw -10VDC at pins 3 and 4 of P2. If you select "Vdd,
+5V (pin 14)" from the "Signals" window of PICPROG, you should see the
voltage on pin 3 of P2 go to +10V. You can also note approximately 4 volts
on pin 14 of the PIC.

De-select Vdd and select "Clock, RB6 (pin 12)" you should see the voltage
on pin 4 of P2 go to +10V. And you will also note approximately 4-5 volts
on pin 12 of the PIC.

De-select Clock, and select "Data, RB7 (pin 13)" and you should see the
voltage on pin 7 of P2 go to +10V and approximately 4-5 volts on pin 13 of
the PIC.

That should do it.

- Steve, N7HPR
   n7hpr@tapr.org
   n7hpr@amsat.org

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

10. [picsig] Re: Old PIC-E boards

From: "Steven R. Bible" <srbible@gate.net>
Date: Tue, 02 Nov 1999 17:47:18 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-47837-1999.11.02-17.00.19--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

For all,

I've already answered Hank via private email.

Yes, there are a handful of eval boards left and TAPR will sell them. If
Hank doesn't want all of them, then we'll offer the remainder to the list.

- Steve n7hpr@tapr.org

At 10:49 AM 11/2/99 -0800, you wrote:
>Steve,
>
>I'v asked you twice before in email in the last month a simple
>question and have never received any response, so I'm trying
>through the list.
>
>I would like to know if TAPR would sell the old prototype PIC-E
>boards (like a few people got by mistake recently) to those of us
>who don't need a perfect finished board.
>
>Hank
>
>---
>You are currently subscribed to picsig as: srbible@gate.net
>To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

- Steve, N7HPR
   n7hpr@tapr.org
   n7hpr@amsat.org

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

11. [picsig] 1k2telem bare board pre-orders

From: James Jefferson <jjeffers@deskmedia.com>
Date: Tue, 2 Nov 1999 20:37:47 -0600

To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Cc: jjeffers@deskmedia.com, afrisch@jarviscomputer.com
Message-ID: <LYR6890-47853-1999.11.02-20.52.59--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hello everyone,
I've been busy with the 1k2telem board project lately. About two weeks ago I
got three milled prototype boards. I've assembled and tested 2 of the
boards and Jeff King has been playing with the third board. I found 3
electrical problems with the prototype (serial in and serial out were reversed,
an extra 10k resistor was thrown in, and the write protect on the I2C EEPROM was
enabled) and a handful of minor mechanical problems. I've now fixed these
errors. I placed a few scans of the milled prototype board online at:
http://www.jarviscomputer.com/1k2telem/images/

I selected "E P Circuits" (http://www.uniserve.com/epcircuits/) to manufacturer
the boards. The board is 2x5" inches, doubled sided, plated through, and solder
masked. EP charges $105 flat plus $5 a board for this size PCB. That works out
to $7.625 a board (my cost), assuming 40 quantity.

I'm selling boards for $9 at quantity less then 5 boards, $8 for 5 or more.
Shipping is $3.50 priority mail, $1.50 first class for the US residents.
International shipping is at cost + packaging.

Right now I'm accepting PRE-ORDERS. This is so I can get an idea of the number
of boards to have manufactured. You do NOT need to send money now. If you are
interested then please send an e-mail to <jjeffers@deskmedia.com> with your
name, e-mail address, callsign, and quantity ordered. DO NOT SEND PRE-ORDERS TO
THIS LIST!

Have fun!

-James Jefferson KB0THN
jjeffers@deskmedia.com

PS: For those not familiar with the project you can read my introductory
messages and view the schematics and board layouts at:

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

12. [picsig] Re: 1k2telem bare board pre-orders

From: "Dave VanHorn" <dvanhorn@cedar.net>
Date: Tue, 2 Nov 1999 21:49:44 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Cc: <jjeffers@deskmedia.com>
Message-ID: <LYR6890-47854-1999.11.02-21.06.53--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> Hello everyone,
> I've been busy with the 1k2telem board project lately.

Just for laughs, what IS this?

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

13. [picsig] Re: 1k2telem bare board pre-orders

From: "Scott Morris" <smorris@mindspring.com>
Date: Tue, 2 Nov 1999 22:34:07 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-47860-1999.11.02-21.44.06--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Take a look at

http://www.jarviscomputer.com/1k2telem/1k2telem-introduction.txt

It is an alternative for the PIC-E by TAPR.

Scott

----- Original Message -----
From: Dave VanHorn <dvanhorn@cedar.net>
To: TAPR PIC Development Special Interest Group <picsig@lists.tapr.org>

Cc: <jjeffers@deskmedia.com>
Sent: Tuesday, November 02, 1999 9:49 PM
Subject: [picsig] Re: 1k2telem bare board pre-orders

>
>
> > Hello everyone,
> > I've been busy with the 1k2telem board project lately.
>
> Just for laughs, what IS this?
>
>
>
> ---
> You are currently subscribed to picsig as: smorris@mindspring.com
> To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org
>

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

14. [picsig] Re: 1k2telem bare board pre-orders

From: "Dave VanHorn" <dvanhorn@cedar.net>
Date: Tue, 2 Nov 1999 22:40:39 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-47863-1999.11.02-21.57.59--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> Take a look at
>
> http://www.jarviscomputer.com/1k2telem/1k2telem-introduction.txt
>
> It is an alternative for the PIC-E by TAPR.

Cute! Is there any software yet available?
I'm wondering just how much work it would be to hack an atmel AVR onto the
board.
(4X the mips for the same clock, plus I already know the chip)

At the moment, encoding AX25 frames is a mystery to me.

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

15. [picsig] Re: 1k2telem bare board pre-orders

From: INFORMATION RESTRICTED <kc7vdg@earthlink.net>
Date: Wed, 03 Nov 1999 03:48:43 -0800
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-47864-1999.11.02-22.02.05--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I am interested in such an encoder where the baud rate and possibly the
tones can be controlled by the user. Can your setup do this?

Kurt

James Jefferson wrote:
>
> Hello everyone,
> I've been busy with the 1k2telem board project lately. About two weeks ago I
--
All Times And Dates UTC
Carson Valley, Nevada

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16. [picsig] Re: 1k2telem bare board pre-orders

From: "Scott Morris" <smorris@mindspring.com>
Date: Tue, 2 Nov 1999 23:05:45 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-47869-1999.11.02-22.15.41--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Most of this is a mystery to me, I wish I had the time to learn PIC
programming and analyze the traffic as it flows to decode it.

I am sure James will see this.

James, any hints on a good way to start in programming PICs?

Scott
----- Original Message -----
From: Dave VanHorn <dvanhorn@cedar.net>
To: TAPR PIC Development Special Interest Group <picsig@lists.tapr.org>
Sent: Tuesday, November 02, 1999 10:40 PM
Subject: [picsig] Re: 1k2telem bare board pre-orders

>
>
> > Take a look at
> >
> > http://www.jarviscomputer.com/1k2telem/1k2telem-introduction.txt
> >
> > It is an alternative for the PIC-E by TAPR.
>
>
> Cute! Is there any software yet available?
> I'm wondering just how much work it would be to hack an atmel AVR onto the
> board.
> (4X the mips for the same clock, plus I already know the chip)
>
> At the moment, encoding AX25 frames is a mystery to me.
>
>
>
> ---
> You are currently subscribed to picsig as: smorris@mindspring.com
> To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org
>

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

17. [picsig] Re: Interfacing with a Delorme Earthmate <LYR11446-47639-1999.11.01-05.11.23--rdrines#pacbell.net@lists.tapr.org >

From: Paul Williamson <kb5mu@amsat.org>
Date: Tue, 02 Nov 1999 21:52:46 -0800
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-47885-1999.11.03-00.09.58--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 12:37 PM 11/2/99 -0500, Steve wrote:
>The crutch [sic] of the problem is that the Earthmate Lat
>and Long in Zodiac binary format is in radians. You must convert radians to
>degrees, minutes, seconds for the NMEA format. To get enough resolution you
>need to use 32-bit floating point math.

If you're going directly to APRS, you don't need degrees, minutes, seconds; you need three decimal
digits of degrees and four decimal digits of minutes in hundredths.

It's not hard to do this without using any floating point math.

First convert the value to fixed point using a small enough unit. If it's in decimal ASCII, for
instance, just shift by 10**6. If it's binary floating point, choose the right mantissa bits to get a
2**20 scaling. Whatever, it should be essentially free as a side effect of how you read the value in
(you might have to do some bit shifting if it's binary). Now you've got a large integer value in
microradians or some similar unit. This values fits easily in 24 bits. (You can use 32-bit arithmetic if
 you have 32-bit libraries handy and no 24-bit libraries.)

Pre-compute (in these same units, at design time) a small table of 24-bit integer constants for the
following values:
100 degrees
10 degrees

1 degree
10 minutes
1 minute
0.1 minute
0.01 minute

Now go through the above table. For each constant, call a little subroutine that loops, subtracting the constant from the value until just before it goes negative. The loop counter gives you directly the value of that digit for the APRS report.

Worst case calculation is 57 subtractions, and they're merely 24-bit integer subtractions, and the loop control logic is dead simple.

I would guess (with my zero experience at PIC code sizes) that this has to be much smaller than anything using 32-bit floating point.

You could make this code faster, but it would get bigger. You could also use a variation on this method to get degrees/minutes/seconds if that's what you needed.

Brute force is good.

-Paul

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18. [picsig] APRS Protocol Reference

From: Ian Wade <ian@dowrmain.demon.co.uk>
Date: Wed, 3 Nov 1999 06:13:50 +0000
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-47886-1999.11.03-00.30.57--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Subject: Protocol Spec Update
Date: Tue, 02 Nov 1999 19:07:29 -0500
From: John Ackermann <jra@meow.febo.com>

The new draft of the APRS Protocol Reference specification is going through the final phases of update, and we expect to publish it towards the end of November.

This is a little later than originally anticipated -- the delay is due to the document's having grown from the original 17 pages to more than 70 over the last three weeks!

The new draft incorporates detailed packet format diagrams, the APRS symbol tables, descriptions of compressed data format and Mic-E format (with a complete appendix explaining in detail how to decode Mic-E packets), and many more examples of APRS packets in general.

There is an enormous amount of detail in the document which the APRS Working Group is now double-checking. We're sure you'll like the finished result, and will find it's been worth waiting for. Because the document has been virtually rewritten since the original draft, we will have another public comment period prior to final adoption of Version 1.0.

I'd like to thank the APRS authors as well as our technical editor, Ian Wade, G3NRW, who have exchanged hundreds of emails over the last few weeks trying to nail down obscure points in the protocol. Their hard work has made a real difference in the document we'll be delivering. I'd also like to thank everyone who commented on the original draft; all those comments have been taken into consideration for this iteration.

73,
John N8UR
Administrative Chair, APRS Working Group
jra@febo.com

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

19. [picsig] Re: 1k2telem bare board pre-orders

From: "Sadowski, Allan" <allan.sadowski@ncshp.org>
Date: Wed, 3 Nov 1999 08:31:02 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Cc: "'TAPR PIC Development Special Interest Group'" <picsig@lists.tapr.org>
Message-ID: <LYR6890-47894-1999.11.03-07.43.53--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I love the effort... and I agree with Dave... an ATMEL version and
I'll buy 10...

ALOHA
AH6LS

> -----Original Message-----
> From: Dave VanHorn [SMTP:dvanhorn@cedar.net]
> Sent: Tuesday, November 02, 1999 10:41 PM
> To: TAPR PIC Development Special Interest Group
> Subject: [picsig] Re: 1k2telem bare board pre-orders
>
>
>
> > Take a look at
> >
> > http://www.jarviscomputer.com/1k2telem/1k2telem-introduction.txt
> >
> > It is an alternative for the PIC-E by TAPR.
>
>
> Cute! Is there any software yet available?
> I'm wondering just how much work it would be to hack an atmel AVR onto the
> board.
> (4X the mips for the same clock, plus I already know the chip)
>
> At the moment, encoding AX25 frames is a mystery to me.
>
>

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

20. [picsig] Atmel PIC-E [was: 1k2telem bare board pre-orders]

From: "Steven R. Bible" <n7hpr@amsat.org>
Date: Wed, 3 Nov 1999 09:03:34 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-47896-1999.11.03-08.17.04--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

----- Original Message -----
From: Sadowski, Allan <allan.sadowski@ncshp.org>
To: TAPR PIC Development Special Interest Group <picsig@lists.tapr.org>
Cc: 'TAPR PIC Development Special Interest Group' <picsig@lists.tapr.org>
Sent: Wednesday, November 03, 1999 8:31 AM
Subject: [picsig] Re: 1k2telem bare board pre-orders

> I love the effort... and I agree with Dave... an ATMEL version and
> I'll buy 10...

Already on it.

So which Atmel microcontroller are you interested in? AT89/90? AVR? or ARM?

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

21. [picsig] Re: Atmel PIC-E [was: 1k2telem bare board pre-orders]

From: Jim White <jim@coloradosatellite.com>
Date: Wed, 03 Nov 1999 07:22:30 -0700
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-47897-1999.11.03-08.35.58--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

AVR.
The AT90LS2323 and 4434.

I'm starting two projects with them now.
jw
jim@coloradosatellite.com

At 09:03 AM 11/3/99 -0500, you wrote:
>
>----- Original Message -----
>From: Sadowski, Allan <allan.sadowski@ncshp.org>
>To: TAPR PIC Development Special Interest Group <picsig@lists.tapr.org>
>Cc: 'TAPR PIC Development Special Interest Group' <picsig@lists.tapr.org>
>Sent: Wednesday, November 03, 1999 8:31 AM
>Subject: [picsig] Re: 1k2telem bare board pre-orders
>
>
>> I love the effort... and I agree with Dave... an ATMEL version and
>> I'll buy 10...
>
>
>Already on it.
>
>So which Atmel microcontroller are you interested in? AT89/90? AVR? or ARM?
>
>
>
>
>---
>You are currently subscribed to picsig as: jim@coloradosatellite.com
>To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org
>
>
>

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22. [picsig] Re: 1k2telem bare board pre-orders

From: "Dave VanHorn" <dvanhorn@cedar.net>
Date: Wed, 3 Nov 1999 12:35:54 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Cc: "'TAPR PIC Development Special Interest Group'" <picsig@lists.tapr.org>
Message-ID: <LYR6890-47909-1999.11.03-11.49.35--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> I love the effort... and I agree with Dave... an ATMEL version and
> I'll buy 10...

Welcome to the dark side :)

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23. [picsig] Re: Atmel PIC-E [was: 1k2telem bare board pre-orders]

From: "Dave VanHorn" <dvanhorn@cedar.net>
Date: Wed, 3 Nov 1999 12:55:42 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-47911-1999.11.03-12.15.18--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> AVR.
> The AT90LS2323 and 4434.
> I'm starting two projects with them now.

8535 is a drop-in for the 4434, and has twice the rom/ram
For those of you who have not yet joined the dark side:
(I don't sell them, I just evangelize :)

8 MHz, 8 MIPS
Flash, totally electrically programmable (No UV erasers :)
2kwords program (4434) 4k (8535) Readable at run-time
256 bytes ram(4434) 8k (8535)
256 bytes EEPROM (4434) 512 (8535) R/W at run-time
32 registers, almost any reg can be used with any instruction
no "pages"
8 channel 10 bit ADC

UART with it's own baud rate generator
Hardware SPI port
Three timers, two "simple" 8 bit, and one complex 16 bit
Each has separate prescalers
Timer 2 can be operated in RTC mode with watch xtal
Analog comarator
32 I/O lines
Free assembler and simulator, $50 development kit (includes programmer),
$200 ice.
Available in 40 pin DIP, PLCC, and QFP (which is about .5" square)

PICsters will be familiar with the "W" register, where everything must go to
be worked on.
The AVR has almost no such restrictions. All instructions but one operate on
all 16 "top half" registers, and most operate on all registers. The large
exception is LPM (sort of similar to RETLW)
which deposits it's output in R0.
There are three 16 bit pointer register pairs, which can also be used
individually as general registers.

I've written a freely available software package called "getting started"
which has R/C servo control, buffered serial comms, random number generator,
LCD display driver.. Tons of useful modules. It's written for the 8515, but
it's an easy port to the 8535. It's at www.dontronics.com/8515.html

Feel the POWER of the dark side!

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24. [picsig] Re: Atmel PIC-E [was: 1k2telem bare board pre-orders]

From: Jeff King <jeff@aerodata.net>
Date: Wed, 03 Nov 1999 16:44:27 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-47924-1999.11.03-15.56.00--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Dave VanHorn wrote:

> > AVR.
>
>
> Feel the POWER of the dark side!

The Dark Side needs to come out with a less expensive C compiler.... we are
looking
at $2000+ for a decent one for the AVR.

Other then that, (and tools ARE important) I'd love to use it. Even though (as
you
well know Dave) MicroChip has lots of "issues", you just can't beat the amount
of
tools available for it. Atmels ads (claims) also turned me off. MicroChip
advertises
ROM sizes that map directly to the instructions were as Atmel lists them in
bytes (and
each instruction is a word).

That much being said, MicroChip *is* worried about Atmel. They won't ever allow
distributors
to carry there line if they also carry Atmel.

-Jeff

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25. [picsig] Re: Atmel PIC-E [was: 1k2telem bare board pre-orders]

From: "Dave VanHorn" <dvanhorn@cedar.net>
Date: Wed, 3 Nov 1999 16:50:54 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-47925-1999.11.03-16.04.37--lyris.picsig#tapr.org@lists.tapr.org>

Rendered body type: text/plain

> The Dark Side needs to come out with a less expensive C compiler.... we
are
> looking at $2000+ for a decent one for the AVR.

I don't do C, so I can't speak so it. I do know there are several out
there, but I wouldn't presume to judge "decentness". Ask on the atmel list,
you'll get the whole spread from freeware to IAR dongleware.

> Other then that, (and tools ARE important) I'd love to use it. Even though
(as
> you well know Dave) MicroChip has lots of "issues", you just can't beat
the amount
> of tools available for it. Atmels ads (claims) also turned me off.
MicroChip
> advertises ROM sizes that map directly to the instructions were as Atmel
lists them in
> bytes (and each instruction is a word).

I agree, I think they should have said "words", but then they would face
people thinking that 2kwords is less than 4kbytes.
IMHO, all vendors should use "instructions", as in Rom: 4k instructions,
since that's really the only thing that matters! (except tables of bytes
maybe, where the AVR stores 2 bytes/word)

> That much being said, MicroChip *is* worried about Atmel. They won't ever
allow
> distributors to carry there line if they also carry Atmel.

I didn't know that! I guess that explains why Digikey dosen't do atmel.
(yet :)

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26. [picsig] RE: Atmel PIC-E

From: "Sadowski, Allan" <allan.sadowski@ncshp.org>
Date: Wed, 3 Nov 1999 17:05:04 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-47932-1999.11.03-16.17.59--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Love this thread right now... trying to mentally reconcile an effort that
would combine the best of Baritek's board, ATMELS eval board, and
the PICOWEB device... all rolled together with the addtional bells for
hooking up two radios and a GPS... it'd be nice to just have a daughter
board that gloms together two of the above with the bells on it...

Trying to keep the wish list to a minimum... make stuff optional to
the max extent... and keep the price down - though the thought of
the above really interests me... connecting via ethernet to my
ATMEL PIC-E and also have it on my LAN so I can receive data
and measure data remotely.... a stripped down web page to access
it all and yippeeee..... and for the serious side... just telnet to it
and do everything I could via a serial port... but miles away...

dunno why, but I find the ATMEL part easier to program than the
PIC... must be that I learned assembly on PDP's, AMD2900's and
68xx parts... I know... ancient stuff.. seems silly ... I guess all the
registers, RAM and Flash memory make it easier for me....

ALOHA
AH6LS

> -----Original Message-----
> From: Dave VanHorn [SMTP:dvanhorn@cedar.net]
> Sent: Wednesday, November 03, 1999 4:51 PM
> To: TAPR PIC Development Special Interest Group
> Subject: [picsig] Re: Atmel PIC-E [was: 1k2telem bare board
> pre-orders]
>
>
> > The Dark Side needs to come out with a less expensive C compiler.... we
> are> looking at $2000+ for a decent one for the AVR.
>

> I don't do C, so I can't speak so it. I do know there are several out
> there, but I wouldn't presume to judge "decentness". Ask on the atmel
> list,you'll get the whole spread from freeware to IAR dongleware.
>
> > Other then that, (and tools ARE important) I'd love to use it. Even
> though(as> you well know Dave) MicroChip has lots of "issues", you just
> can't beatthe amount
> > of tools available for it. Atmels ads (claims) also turned me off.
> MicroChip> advertises ROM sizes that map directly to the instructions were
> as Atmellists them in> bytes (and each instruction is a word).
>
> I agree, I think they should have said "words", but then they would face
> people thinking that 2kwords is less than 4kbytes.
> IMHO, all vendors should use "instructions", as in Rom: 4k instructions,
> since that's really the only thing that matters! (except tables of bytes
> maybe, where the AVR stores 2 bytes/word)
>
> > That much being said, MicroChip *is* worried about Atmel. They won't
> everallow> distributors to carry there line if they also carry Atmel.
>
> I didn't know that! I guess that explains why Digikey dosen't do atmel.
> (yet :)
>

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27. [picsig] TINI, was RE: Atmel PIC-E

From: Jeff King <jeff@aerodata.net>
Date: Wed, 03 Nov 1999 17:18:41 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-47933-1999.11.03-16.30.10--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Something I heard about at the last DCC was the
TINI from Dallas Semiconductor. Either Steve Bible or
Steve Dimse mentioned it during one of there talks.

See: http://www.ibutton.com/TINI/index.html

This basically is a JAVA powered "microcontroller" with CAN, RS-232
ethernet and other interfaces. A complete eval board is $50.

I'm actually suprised I haven't seen anything on here about it.

Anyways, check it out, it might make some sense for low volume
ethernet/tcpip enabled hobbyist projects.

-Jeff

"Sadowski, Allan" wrote:

> Love this thread right now... trying to mentally reconcile an effort that
> would combine the best of Baritek's board, ATMELS eval board, and
> the PICOWEB device... all rolled together with the addtional bells for
> hooking up two radios and a GPS... it'd be nice to just have a daughter
> board that gloms together two of the above with the bells on it...

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28. [picsig] 1k2telem board update and questions addressed

From: James Jefferson <jjeffers@deskmedia.com>
Date: Wed, 3 Nov 1999 18:27:32 -0600
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-47944-1999.11.03-19.04.08--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hum, interesting stuff about the ATMEL processors. I'll look at the pinouts
and determine if it will be feasible to put pads on the board for it. From what
I recall the AVR's don't need any external parts besides a clock, right?

One feature that I forgot to mention the other day was the I2C bus. In going
through the past e-mail I discovered Mike Berg wrote some code that uses FRAM
as a buffer to receive packets. Ramtron makes I2C FRAM that will fit in the two

sockets on the 1k2telem board. I have a few samples and they work great on the board! There is a board edge connector that brings the I2C lines and power out which makes it really convenient to connect temperature sensors on to.

A few people have asked me about the availability of code for the board. All the existing PIC-E code can easily be ported to the 1k2telem board by changing IO defines and setting the chip to not use bit retimming (add an output high statement). I've also put a lot of code online that works with the board. I believe I've put beaconing code, FRAM ring buffer, DCD state engine, KISS sending, bit retimming, and few other samples online.

One of my off-the-wall ideas a year ago was to make a KISS TNC with the board. That is why there is two FRAM sockets present. It will be fairly to simple to use two chips (one as input and one as the output buffer) with the ring buffer code to accomplish that.

A future plan of mine is to integrate a PIC16C73 and a MX589 to make a high speed board. The MX614 is a 4kbps - 200kbps modem; the same as used on KPC-9612's and various other 9600 baud TNCs.

And one last note: In my introductory e-mail I said that commercial use of the board files would need to be negotiated with me. Forget about that. Anyone can use it any way they want. Make a million bucks if you want! :-)

That's all for now,

-James Jefferson KB0THN
jjeffers@deskmedia.com

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29. [picsig] Re: 1k2telem board update and questions addressed

From: "Dave VanHorn" <dvanhorn@cedar.net>
Date: Wed, 3 Nov 1999 20:52:36 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-47945-1999.11.03-20.10.04--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> Hum, interesting stuff about the ATMEL processors. I'll look at the pinouts
> and determine if it will be feasible to put pads on the board for it. From what
> I recall the AVR's don't need any external parts besides a clock, right?

5V, Ground, a /RESET line, and a crystal and two caps.

> One feature that I forgot to mention the other day was the I2C bus. In going
> through the past e-mail I discovered Mike Berg wrote some code that uses FRAM
> as a buffer to receive packets. Ramtron makes I2C FRAM that will fit in the two
> sockets on the 1k2telem board. I have a few samples and they work great on the
> board! There is a board edge connector that brings the I2C lines and power out
> which makes it really convenient to connect temperature sensors on to.

The AVR dosen't speak I2C natively, but that may not be a problem, with 512 bytes of ram.
In any case, it can be bit-banged. How big a buffer do you need?

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30. [picsig] RE: 1k2telem board update and questions addressed

From: "Sadowski, Allan" <allan.sadowski@ncshp.org>
Date: Wed, 3 Nov 1999 21:52:52 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-47953-1999.11.03-21.05.52--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

NOT ONLY OPEN SOURCE .... but OPEN HARDWARE... this kid will
go far... I think he read a page from Linus Torvalds book... Good Show
James...

I gave alpha channel to the world almost 20 years ago... and every
computer graphics program uses it... I don't get a penny - but I do get
a kick outta seeing it used... Good to see others not having $$$
as major motivation...

ALOHA to you James... and THANKYOU - even if I don't use it...

AH6LS

> -----Original Message-----
> From: James Jefferson [SMTP:jjeffers@deskmedia.com]
        >SNIP
>
> And one last note: In my introductory e-mail I said that commercial use of
> the
> board files would need to be negotiated with me. Forget about that. Anyone
> can
> use it any way they want. Make a million bucks if you want! :-)
>

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31. [picsig] Re: Atmel PIC-E [was: 1k2telem bare board pre-orders]

From: Bob Nielsen <nielsen@primenet.com>
Date: Wed, 3 Nov 1999 22:20:20 -0700
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-47957-1999.11.03-23.33.46--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Wed, Nov 03, 1999 at 04:44:27PM -0500, Jeff King wrote:
>
> That much being said, MicroChip *is* worried about Atmel. They won't
> ever allow distributors to carry there line if they also carry Atmel.

An attitude like that really bothers me. I would think the FTC might
be interested in this.

Bob

--
Bob Nielsen   Internet: nielsen@primenet.com
Tucson, AZ   AMPRnet: w6swe@w6swe.ampr.org
DM42nh   http://www.primenet.com/~nielsen

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32. [picsig] Re: Atmel PIC-E [was: 1k2telem bare board pre-orders]

From: "Dave VanHorn" <dvanhorn@cedar.net>
Date: Thu, 4 Nov 1999 00:24:20 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-47959-1999.11.03-23.38.18--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> An attitude like that really bothers me. I would think the FTC might
> be interested in this.

The worst "attitude" bit (IMHO) was uChip's "the truth about AVR" document.
A textbook in spin-doctoring.

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33. [picsig] Re: Atmel PIC-E [was: 1k2telem bare board pre-orders]

From: Jeff King <jeff@aerodata.net>
Date: Thu, 04 Nov 1999 00:40:05 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>

Message-ID: <LYR6890-47960-1999.11.03-23.51.39--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Bob Nielsen wrote:

> On Wed, Nov 03, 1999 at 04:44:27PM -0500, Jeff King wrote:
> >
> > That much being said, MicroChip *is* worried about Atmel. They won't
> > ever allow distributors to carry there line if they also carry Atmel.
>
> An attitude like that really bothers me. I would think the FTC might
> be interested in this.

I'm sure its not "official" policy (read can be proved in a court of law). But
the
distributor basically told me they had to make a choice between Atmel and
Microchip..... the chose MicroChip as the volumes are higher. Now they
DO carry Motorola and MicroChip and things are very strained because
of this. But Atmel apparently was to small to stand the heat and/or risk.

This came up when I suggested to them they also carry Atmel.

As a engineer who has become more of a "businessman", I have to tell you
that there is alot of this kind of stuff going on. The 10,000 lb gorillas really

do try to throw their weight around.

-Jeff

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34. [picsig] Re: Atmel PIC-E [was: 1k2telem bare board pre-orders]

From: hshk@ix.netcom.com (HSHK)
Date: Thu, 04 Nov 1999 13:18:12 GMT
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-47997-1999.11.04-07.32.15--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hey Group,

I too like the ATMEL chips.

I get them from Arrow Electronics.

I especially like the AT89S8252.

This is an 8051 devirative with 8K bytes of flash program
memory.

2K bytes of EEPROM.

256 bytes of ram.

Serial port.

3-16 bit timers

6 Interrupts.

And, is in-circut programmable with nothing more
than a PC with a serial port.

There is tons of code availabloe for it.

Free assemblers and C compilers are available.

ATMEL also makes some similiar, abeit smaller
microprocessors too with many of the same
features.

73 de KA8VIT

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35. [picsig] voltage check

From: arthur coulombe <w7hgk@innw.net>
Date: Wed, 03 Nov 1999 17:16:27 -0800
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-48118-1999.11.04-19.37.32--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Steve
Thanks for helping out on the voltage checks. I appreciate the
assistance. This is a new area of Hamming that is exciting and
adventures. We actually met at the DCC in Seattle
Sept. 96."like hi"
Now the results of the voltage checks only 1 out of 3 " passed "
    OK on vdd
    NOT on clock
    NOT on data
I'll check out the board again
also does tapr have a good pkunzip that can be down loaded
tnx ag Art

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36. [picsig] Re: voltage check

From: "Steven R. Bible" <srbible@gate.net>
Date: Thu, 04 Nov 1999 21:37:20 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-48127-1999.11.04-20.50.30--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 05:16 PM 11/3/99 -0800, you wrote:
>   Steve
>Thanks for helping out on the voltage checks. I appreciate the
>assistance. This is a new area of Hamming that is exciting and
>adventures. We actually met at the DCC in Seattle
>Sept. 96."like hi"
>Now the results of the voltage checks only 1 out of 3 " passed "
>   OK on vdd
>   NOT on clock
>   NOT on data
>I'll check out the board again
>also does tapr have a good pkunzip that can be down loaded

Hello Art,

Seattle hey :-).

The clock and data lines are pretty simple. Take a look at the schematic
and trace the lines out. There are dropping resistors in series. Make
certain the correct values are in place.

Also, have you tried programming the DIAG program yet?

Are you looking for the plan ol' DOS pkunzup? If you are using Windows
95/98 I'd recommend WinZIP. It can be downloaded from http://www.stroud.com.

73,

- Steve, N7HPR
   n7hpr@tapr.org
   n7hpr@amsat.org

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

37. [picsig] Re: Atmel PIC-E [was: 1k2telem bare board pre-orders]

From: Jim White <jim@coloradosatellite.com>
Date: Thu, 04 Nov 1999 19:11:45 -0700
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>

Message-ID: <LYR6890-48153-1999.11.04-21.50.19--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I'm just getting cranked up on the ATMEL AVR stuff.
STK300 arrived today. Can anyone point me to a place with a procedure for
getting the software configured and testing the board. Not much info came
with it.

Also re C compliers,
I just bought CAVR from Dontronics for $99. Anyone have any experience
with it?

And being just full of questions, how about a pointer to an AVR reflector?

jw
jim@coloradosatellite.com
wd0e@amsat.org

At 04:44 PM 11/3/99 -0500, you wrote:
>
>
>Dave VanHorn wrote:
>
>> > AVR.
>>
>>
>> Feel the POWER of the dark side!
>
>The Dark Side needs to come out with a less expensive C compiler.... we are
>looking
>at $2000+ for a decent one for the AVR.
>
>Other then that, (and tools ARE important) I'd love to use it. Even though
(as
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>tools available for it. Atmels ads (claims) also turned me off. MicroChip
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>ROM sizes that map directly to the instructions were as Atmel lists them in
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>each instruction is a word).
>
>That much being said, MicroChip *is* worried about Atmel. They won't ever
allow
>distributors
>to carry there line if they also carry Atmel.
>
>-Jeff
>
>
>
>---
>You are currently subscribed to picsig as: jim@coloradosatellite.com
>To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org
>
>
>

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

38. [picsig] Re: Atmel PIC-E [was: 1k2telem bare board pre-orders]

From: "Dave VanHorn" <dvanhorn@cedar.net>
Date: Thu, 4 Nov 1999 23:07:41 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-48160-1999.11.04-22.21.45--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> I'm just getting cranked up on the ATMEL AVR stuff.
> STK300 arrived today. Can anyone point me to a place with a procedure for
> getting the software configured and testing the board. Not much info came
> with it.

Which processor? I didn't know about the 300, unless it's a mega, which is
something I've not played with yet (VERY soon though!)

My 8515 starter code might help, though depending on the chip it may need

tweaking.
I've got the databook on all the devices, so I can walk you through it.
www.dontronics.com/8515.html

I'm just assembler here, (I used to be a hardware only guy)

> And being just full of questions, how about a pointer to an AVR reflector?

atmel@pic.co.za is where I hang out, plus AVR@egroups.com, which I moderate.
atmel-request@pic.co.za is the admin address, but I'm afraid I've forgotten
how to subscribe :)

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

39. [picsig] C development on the ATMEL ...

From: Kurt Herremans <Kurt.Herremans@smartmove.be>
Date: Fri, 05 Nov 1999 10:19:12 +0100
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-48204-1999.11.05-03.34.05--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

You guys asked for it... here it is...

http://medo.fov.uni-mb.si/mapp/uTools/index.html

Micro tools is a set of development tools for Atmel AVR micro-controllers. These
tools are intended for linux users but a dos / windows port is done by Volker
Oth & Paulo Soares.
Best of all , they are free & deliver good code !
See :
http://members.xoom.com/volkeroth/index_e.htm
http://members.xoom.com/Paulo_Soares

A active mailing list is also available...
Please don't bother the guys too much with ' how to installs... ' it's easily
done... they're still maturing these tools & have work enough. As always :-)

Kind regards,
Kurt

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40. [picsig] WX ALarms

From: Bob Bruninga <bruninga@nadn.navy.mil>
Date: Fri, 5 Nov 1999 08:51:31 -0500 (EST)
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Cc: TAPR APRS Special Interest Group <aprssig@tapr.org>
Message-ID: <LYR6890-48215-1999.11.05-08.04.41--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

In the mid-Atlantic area, there is a WX station that is tripping alarms
all over the states with wind speeds in excess of 290 MPH. This happens
about once a week and is driving a lot of people crazy..

The APRS callsign identifier is APE001 which may be a Pic-E WX station.

ANy help would be appreciated...

bob

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41. [picsig] Re: voltage check

From: Bob Nielsen <nielsen@primenet.com>
Date: Fri, 5 Nov 1999 07:32:53 -0700
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-48227-1999.11.05-08.46.09--lyris.picsig#tapr.org@lists.tapr.org>

Rendered body type: text/plain

> >also does tapr have a good pkunzip that can be down loaded

Yes, ftp://tapr.org/software_lib/utils/pkz204g.exe

(self-extracting archive).

I was wondering if I should clear out some of this old stuff, but I
guess not if there is still interest.

Bob

--
Bob Nielsen Internet: nielsen@primenet.com
Tucson, AZ AMPRnet: w6swe@w6swe.ampr.org
DM42nh http://www.primenet.com/~nielsen

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

42. [picsig] Re: Atmel PIC-E [was: 1k2telem bare board pre-order s]

From: "Sadowski, Allan" <allan.sadowski@ncshp.org>
Date: Fri, 5 Nov 1999 10:25:30 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Cc: "'jim@coloradosatellite.com'" <jim@coloradosatellite.com>
Message-ID: <LYR6890-48233-1999.11.05-09.38.29--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

http://www.ipass.net/~hammill/newavr.htm

IS a good AVR site...

I'd highly encourage you go to the bottom and there the AVR WEB ring is
located...

40+ sites involving AVR efforts...

I have a STK-200

Just remember to initialize the stack... example code is all over the AVR
web
ring...

ALOHA
AH6LS

> -----Original Message-----
> From: Jim White [SMTP:jim@coloradosatellite.com]
> Sent: Thursday, November 04, 1999 9:12 PM
> To: TAPR PIC Development Special Interest Group
> Subject: [picsig] Re: Atmel PIC-E [was: 1k2telem bare board
> pre-orders]
>
> I'm just getting cranked up on the ATMEL AVR stuff.
> STK300 arrived today. Can anyone point me to a place with a procedure for
> getting the software configured and testing the board. Not much info came
> with it.
>
> Also re C compliers,
> I just bought CAVR from Dontronics for $99. Anyone have any experience
> with it?
>
> And being just full of questions, how about a pointer to an AVR reflector?
>
> jw
> jim@coloradosatellite.com
> wd0e@amsat.org
>
> At 04:44 PM 11/3/99 -0500, you wrote:
> >
> >
> >Dave VanHorn wrote:
> >
> >> > AVR.
> >>
> >>
> >> Feel the POWER of the dark side!
> >

> >The Dark Side needs to come out with a less expensive C compiler.... we
> are
> >looking
> >at $2000+ for a decent one for the AVR.
> >
> >Other then that, (and tools ARE important) I'd love to use it. Even
> though
> (as
> >you
> >well know Dave) MicroChip has lots of "issues", you just can't beat the
> amount
> >of
> >tools available for it. Atmels ads (claims) also turned me off. MicroChip
> >advertises
> >ROM sizes that map directly to the instructions were as Atmel lists them
> in
> >bytes (and
> >each instruction is a word).
> >
> >That much being said, MicroChip *is* worried about Atmel. They won't ever
> allow
> >distributors
> >to carry there line if they also carry Atmel.
> >
> >-Jeff
> >
> >
> >
> >---
> >You are currently subscribed to picsig as: jim@coloradosatellite.com
> >To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org
> >
> >
> >
>
> ---
> You are currently subscribed to picsig as: asadowski@ncshp.org
> To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

---
You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

43. [picsig] Re: Atmel PIC-E [was: 1k2telem bare board pre-order s]

From: "Dave VanHorn" <dvanhorn@cedar.net>
Date: Fri, 5 Nov 1999 11:44:54 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Cc: <jim@coloradosatellite.com>
Message-ID: <LYR6890-48242-1999.11.05-11.14.40--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> Just remember to initialize the stack... example code is all over the AVR
> web ring...

One of these days, I should get on that. :)

The AVR isn't perfect either, I wish it had the register flexibility of a
Z8, but then agian, I'm SO glad it's not made by Zilog! The Z8s have ALL
the ram as registers, and you can use any register in any instruction, and
any pair of registers makes a 16 bit pointer. OTOH, they divide the clock
by 12,(!) so your MHz/MIPS is even worse than a PIC.

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

44. [picsig] Re: C development on the ATMEL ...

From: Jeff King <jeff@aerodata.net>
Date: Fri, 05 Nov 1999 13:56:25 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-48261-1999.11.05-13.08.04--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Kurt Herremans wrote:

> You guys asked for it... here it is...

Yes, good stuff. thank you.

>
> http://members.xoom.com/Paulo_Soares

This link was broken (and of course, it was the one I was most interested
in). Any idea if he is hosted elsewhere?

Thanks

Jeff wb8wka

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

45. [picsig] Re: C development on the ATMEL ...

From: Jeff King <jeff@aerodata.net>
Date: Fri, 05 Nov 1999 14:04:27 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-48265-1999.11.05-13.15.56--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Jeff King wrote:

>
> > http://members.xoom.com/Paulo_Soares
>
> This link was broken

And it just started working! Sorry

-Jeff

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

46. [picsig] Re: voltage check

From: "Brian B. Riley" <brianbr@macconnect.com>
Date: Fri, 5 Nov 1999 19:05:55 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-48296-1999.11.05-18.19.01--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On 11/5/99 9:32 AM, Bob Nielsen (nielsen@primenet.com) passed this
wisdom:

>> >also does tapr have a good pkunzip that can be down loaded
>
>Yes, ftp://tapr.org/software_lib/utils/pkz204g.exe
>
>(self-extracting archive).
>
>I was wondering if I should clear out some of this old stuff, but I
>guess not if there is still interest.

 PKZ204G is still the standard. Anything that is zipped by WinZip can be
unzipped by 204G and vice versa.

Brian B. Riley --> http://members.macconnect.com/~brianbr
 For PGP Keys <mailto:brianbr@wulfden.org?subject=Get%20PGP%20Key>

   "You will know fear. Then you will know pain. Then you will use a Mac."
     -- from somewhere on the Net

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

47. [picsig] RE: Zip/Unzip prog.

From: "Boissonneault, Martin (A)" <ve2mrx@amsat.org>
Date: Fri, 05 Nov 1999 20:28:25 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-48305-1999.11.05-19.44.47--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi!
        Just to inform you that there is a newer version of DOS pkzip. The
new one has long file name support... You are right for the rest. The
compression in 2.04g is still the standard and used in 2.50...

                http://www.pkware.com/shareware/download/pk250dos.html

        Just a note from Martin VE2MRX
                ve2mrx@amsat.org

-----Original Message-----
From: bounce-picsig-8639@lists.tapr.org
[mailto:bounce-picsig-8639@lists.tapr.org]On Behalf Of Brian B. Riley
Sent: Friday, November 05, 1999 19:06
To: TAPR PIC Development Special Interest Group
Subject: [picsig] Re: voltage check

On 11/5/99 9:32 AM, Bob Nielsen (nielsen@primenet.com) passed this
wisdom:

>> >also does tapr have a good pkunzip that can be down loaded
>
>Yes, ftp://tapr.org/software_lib/utils/pkz204g.exe
>
>(self-extracting archive).
>
>I was wondering if I should clear out some of this old stuff, but I
>guess not if there is still interest.

 PKZ204G is still the standard. Anything that is zipped by WinZip can
be
unzipped by 204G and vice versa.

Brian B. Riley --> http://members.macconnect.com/~brianbr
 For PGP Keys <mailto:brianbr@wulfden.org?subject=Get%20PGP%20Key>

   "You will know fear. Then you will know pain. Then you will use a
Mac."
     -- from somewhere on the Net

You are currently subscribed to picsig as: ve2mrx@iname.com
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

---
You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

48. [picsig] RE: Zip/Unzip prog.

From: "Brian B. Riley" <brianbr@macconnect.com>
Date: Fri, 5 Nov 1999 23:36:51 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-48323-1999.11.05-22.50.02--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On 11/5/99 8:28 PM, Boissonneault, Martin (A) (ve2mrx@amsat.org) passed
this wisdom:

>Hi!
>   Just to inform you that there is a newer version of DOS pkzip. The
>new one has long file name support... You are right for the rest. The
>compression in 2.04g is still the standard and used in 2.50...
>
>   http://www.pkware.com/shareware/download/pk250dos.html
>
>   Just a note from Martin VE2MRX

great .... been a long while since 204G came out and long filename
support is very needed.
Is 250 simply 204G with long file name support???

73 de brian, ka2bqe

Brian B. Riley --> http://members.macconnect.com/~brianbr
For PGP Keys <mailto:brianbr@wulfden.org?subject=Get%20PGP%20Key>

"The human race is divided into two sharply differentiated and
mutually antagonistic classes -- a small minority that plays with
ideas and is capable of taking them in, and a vast majority that
finds them painful, and is thus arrayed against them."
-- H.L. Mencken

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49. [picsig] RE: PKZip 2.50 DOS

From: "Boissonneault, Martin (A)" <ve2mrx@amsat.org>
Date: Sat, 06 Nov 1999 03:24:09 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-48347-1999.11.06-02.45.07--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi!
Well, from what I quickly read, it's basically 2.04g with long file
names support and Y2K compliance... Some quotes from
http://www.pkware.com/ :

"PKZIP 2.50 for DOS increases the file storage limitation from 5,000
to over 16,000 files stored in a single .ZIP archive. A great benefit
to anyone doing backup and restore operations using PKZIP."

"Full support of Windows 9x Long File Names (LFN'S). You are no
longer limited to DOS 8.3 file names when running in a Windows 9x
command line environment."

I invite you to take a look at their web even if you do not use pkzip
often. PKZip for DOS is a lifesaver when windows won't run properly
(Backups from dos mode before unplanned reinstall :)

Martin VE2MRX

On 11/5/99 8:28 PM, Boissonneault, Martin (A) (ve2mrx@amsat.org)
passed
this wisdom:

>Hi!
> Just to inform you that there is a newer version of DOS pkzip. The
>new one has long file name support... You are right for the rest. The
>compression in 2.04g is still the standard and used in 2.50...
>
> http://www.pkware.com/shareware/download/pk250dos.html
>
> Just a note from Martin VE2MRX

great .... been a long while since 204G came out and long filename
support is very needed.
Is 250 simply 204G with long file name support???

73 de brian, ka2bqe

Brian B. Riley --> http://members.macconnect.com/~brianbr
For PGP Keys <mailto:brianbr@wulfden.org?subject=Get%20PGP%20Key>

"The human race is divided into two sharply differentiated and
mutually antagonistic classes -- a small minority that plays with
ideas and is capable of taking them in, and a vast majority that
finds them painful, and is thus arrayed against them."
-- H.L. Mencken

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---
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50. [picsig] $20 GPS Display Code.

From: ka9kim@k8daa.ampr.org
Date: Tue, 09 Nov 99 07:46:03 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-48589-1999.11.09-07.02.43--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi All,

I have taken some time to clean up the display code, and have put it on
my web site...

You can reach it via http://207.74.35.36/~ka9kim/disp.asm

Next project is to include NMEA output. Shouldnt be hard since all the
data has been decoded, just need another rainy / snowy weekend. HIHI

73,

Mike
KA9KIM

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

51. [picsig] Re: Atmel PIC-E [was: 1k2telem bare board pre-order s]

From: ka9kim@k8daa.ampr.org
Date: Tue, 09 Nov 99 08:31:52 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-48590-1999.11.09-07.45.17--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I hope you guy have more luck with the Atmel parts that I have. We have run
into some MAJOR issues with some of the parts.

First: If you plan on using the on board EEPROM on parts with out a Lo
Voltage Detect, forget it! I have it from Atmel that when the device is
powered down, it will only operate down to 4.5V, then the IP goes nuts and
it is very common for the EEPROM data to be scrambled (we see it every
time!). It is therefore required that reset if applied when the voltage
goes below 4.5V.

Second: Atmel micros do not like it hot. Many of the applications I have
require the part to be able to work in temperatures exceeding 85C. Maybe
this is not typical for projects created in this group, but for an
automotive application, it is a requirement! It will get hot in the car,
and if you expect the unit to work all the time, make sure you seriously
derate the Atmel Micro!

We also were bit by the ROM size issue. Atmel swears they can offer a 30%
reduction in code size when compared to Mot or PIC (they also mention
Hitachi and SGS), but we have never been able to realize a reduction. It
was always an increase in code size. Primarily this is due to the fact that
you cannot directly minipulate RAM. It must be loaded into a register to do
anything. To add insult to injury, RAM is always addressed as a 16 bit
Address.

Once you are able to get over the fact that the micros are not perfect, the
tools get you... It seems like the tools are under constant development.
We got our ICE200 and the software included (which is new) is at least 4
revisions behind the current version. Even Atmel suggests you forget the
CD's, and go directly to their site.

I also agree with whoever was talking about their expensive tools. There is
only one comercial vendor of the C compiler (I hear rumors about Atmel
adding another), and they want a fortune and a half for their tools. Really
too bad, it definately does not promote Atmel's micros.

I hope they are able to overcome some of these issues. It looks like they

could have a very promising micro. They are just getting in their own
way....

Regards,

Mike
KA9KIM

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

52. [picsig] PC boards ?

From: Ron Graham <rongraham@magnet.com.au>
Date: Mon, 15 Nov 1999 07:31:18 +1000
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-49738-1999.11.14-15.40.24--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Some time ago I did a PCB design of a clone for the PIC-E. This was to
incorporate some changes of mine, plus change a couple of parts to those
that are more easily available here in Australia and also nicely fit into a
locally available case. I built up a few of these units.

 Along came that US$20 Aisin GPS receiver, so it was decided to modify the
PC board so as to integrate the GPS RX, its backup battery and the 12C672
data conversion chip. A smallish board 4" x 2 1/2" has resulted .. its about
1 3/8"
high with the RX mounted on its bottom.

 I am thinking of having some boards made commercially .. problem is to
warrant a reasonable quantity and thus end up at a reasonable price. If I
can come up with a requirement of about 40 boards, the price would be about
US$6-50 each.

Any interest ????

 I will go ahead and fit the complete unit into a suitable case and make up
some drilling templates .. which could be supplied with the board assembly
docs for say a couple of bucks. I would also be prepared to organise a
partial (say less IC's) kit of parts.

 More details available if required .. this unit just needs connecting to a
radio and one has an APRS tracking device.

Ron, VK4BRG.

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

53. [picsig] Re: PC boards ?

From: James Jefferson <jjeffers@deskmedia.com>
Date: Sun, 14 Nov 1999 17:20:20 -0600
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-49772-1999.11.14-17.33.48--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> I am thinking of having some boards made commercially .. problem is to
>warrant a reasonable quantity and thus end up at a reasonable price. If I
>can come up with a requirement of about 40 boards, the price would be about
>US$6-50 each.

Cool, I'll buy one! I discussed making the same sort of board/package with
a few people at DCC. Too bad Mavin is out of the GPS's now.

Hum ... is that US $6.50 or US $50? ... if it is the later then I might not
be as interested. :-)

I would highly encourage you to place your printed circuit board,
mechanical layout, parts list, and schematics online as I have done.
Although I've only collected about 25 orders for my boards I've had over
450 people view and download the files. At least a few people have made
boards on their own.

-James Jefferson

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

54. [picsig] Re: PC boards ?

From: arthur coulombe <w7hgk@innw.net>
Date: Sun, 14 Nov 1999 05:19:43 -0800
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-49851-1999.11.15-01.28.55--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>
>
> any interest ????
>
>
> partial (say less IC's) kit of parts.
>
> you bet I'm interested

 Art w7hgk

>
>
> ---
> You are currently subscribed to picsig as: w7hgk@innw.net
> To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

---
You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

55. [picsig] Re: PC boards ?

From: "Bob Oesterlin" <oester@rconnect.com>
Date: Mon, 15 Nov 1999 06:46:36 -0600
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-49903-1999.11.15-07.00.15--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Count me in too!

Bob N0EST

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

56. [picsig] Re: PC boards ?

From: "George S. Pappayliou" <aa8ma@worldnet.att.net>
Date: Mon, 15 Nov 1999 09:14:31 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-49912-1999.11.15-08.27.26--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Ron-
    I'd be interested. Was the price $6.50 or between $6 and $50? I suspect the
former but your note was unclear. Thanks.

George W3GP

Ron Graham wrote:

> Some time ago I did a PCB design of a clone for the PIC-E. This was to
> incorporate some changes of mine, plus change a couple of parts to those
> that are more easily available here in Australia and also nicely fit into a
> locally available case. I built up a few of these units.
>
> Along came that US$20 Aisin GPS receiver, so it was decided to modify the
> PC board so as to integrate the GPS RX, its backup battery and the 12C672
> data conversion chip. A smallish board 4" x 2 1/2" has resulted .. its about
> 1 3/8"
> high with the RX mounted on its bottom.
>
> I am thinking of having some boards made commercially .. problem is to

> warrant a reasonable quantity and thus end up at a reasonable price. If I
> can come up with a requirement of about 40 boards, the price would be about
> US$6-50 each.
>
> Any interest ????
>
> I will go ahead and fit the complete unit into a suitable case and make up
> some drilling templates .. which could be supplied with the board assembly
> docs for say a couple of bucks. I would also be prepared to organise a
> partial (say less IC's) kit of parts.
>
> More details available if required .. this unit just needs connecting to a
> radio and one has an APRS tracking device.
>
> Ron, VK4BRG.
>
> ---
> You are currently subscribed to picsig as: aa8ma@worldnet.att.net
> To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

---
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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

57. [picsig] Re: PC boards ?

From: Ron Graham <rongraham@magnet.com.au>
Date: Tue, 16 Nov 1999 10:19:59 +1000
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-50024-1999.11.15-18.29.05--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi James,
        Thanks for your interest and comments.

>> I am thinking of having some boards made commercially .. problem is to
>>warrant a reasonable quantity and thus end up at a reasonable price. If I
>>can come up with a requirement of about 40 boards, the price would be about
>>US$6-50 each.
>
>Cool, I'll buy one! I discussed making the same sort of board/package with
>a few people at DCC. Too bad Mavin is out of the GPS's now.

Yes, but there must be heaps of them "out there" that guys have bought ..
hoping to get around to doing something with them. This may help the "grt
around to it" !!!

>Hum ... is that US $6.50 or US $50? ... if it is the later then I might not
>be as interested. :-)

Estimate $6.50

>I would highly encourage you to place your printed circuit board,
>mechanical layout, parts list, and schematics online as I have done.
>Although I've only collected about 25 orders for my boards I've had over
>450 people view and download the files. At least a few people have made
>boards on their own.

Will certainly consider that.
Will keep you posted.

Regards, Ron.

>-James Jefferson
>
>---
>You are currently subscribed to picsig as: rongraham@magnet.com.au
>To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org
>
>

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58. [picsig] GPS antennna ?

From: Ron Graham <rongraham@magnet.com.au>
Date: Tue, 16 Nov 1999 10:20:16 +1000
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-50025-1999.11.15-18.29.20--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I refer to a type of antenna (I do not know just what they are called) but
for GPS applications (1500 odd MHz) consist of a metal plate about 1" square
fixed to a ?ceramic material .. on the other side of the ceramic is another
metal plate (? ground plane) also about 1" square. The top plare is fed
slightly off centre via a hole in the ?ground plane and ceramic material.
  Wonder if anyone has any design info (+ theory of operation) on this type
of antenna .. I wish to scale it to a possible application around 230 MHz.

Ron, VK4BRG.

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59. [picsig] Re: GPS antennna ?

From: "Dave VanHorn" <dvanhorn@cedar.net>
Date: Mon, 15 Nov 1999 19:17:30 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-50030-1999.11.15-18.33.38--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

"Patch antenna"

>   Wonder if anyone has any design info (+ theory of operation) on this
type
> of antenna .. I wish to scale it to a possible application around 230 MHz.

EEK.. Think "Dinner Plate".

I don't have the refs for you though. It also depends greatly on the
dielectric, and as far as making them small, air sucks.

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60. [picsig] Re: GPS antennna ?

From: Bob Nielsen <nielsen@primenet.com>
Date: Mon, 15 Nov 1999 17:55:00 -0700
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-50035-1999.11.15-19.10.17--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I don't have any technical information, but what you are describing
sounds like a "patch" antenna.

Bob, W6SWE

On Tue, Nov 16, 1999 at 10:20:16AM +1000, Ron Graham wrote:
>   I refer to a type of antenna (I do not know just what they are called) but
> for GPS applications (1500 odd MHz) consist of a metal plate about 1" square
> fixed to a ?ceramic material .. on the other side of the ceramic is another
> metal plate (? ground plane) also about 1" square. The top plare is fed
> slightly off centre via a hole in the ?ground plane and ceramic material.
>   Wonder if anyone has any design info (+ theory of operation) on this type
> of antenna .. I wish to scale it to a possible application around 230 MHz.
>
> Ron, VK4BRG.
>
>
> ---
> You are currently subscribed to picsig as: nielsen@primenet.com
> To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org
>

--
Bob Nielsen   Internet: nielsen@primenet.com

```
Tucson, AZ                  AMPRnet:  w6swe@w6swe.ampr.org
DM42nh                      http://www.primenet.com/~nielsen

---
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```

61. [picsig] HTX-202

```
From: Ronald Armstrong <roarmst@tvidetron.ca>
Date: Mon, 15 Nov 1999 20:08:33 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-50041-1999.11.15-19.25.11--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain
```

```
anyone know how to make the connection
from a PIC-E to a HTX-202

Ronald VE2JOR


---
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```

62. [picsig] Re: GPS antennna ?

```
From: Derek Lassen <kn6td@clubnet.net>
Date: Mon, 15 Nov 1999 17:47:33 -0800
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-50049-1999.11.15-20.10.56--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain
```

```
A little more useful is to note that these patch antennas are *circularly*
polarized.
...
At 05:55 PM 11/15/99 -0700, you wrote:
>I don't have any technical information, but what you are describing
>sounds like a "patch" antenna.
>
>Bob, W6SWE
>
>On Tue, Nov 16, 1999 at 10:20:16AM +1000, Ron Graham wrote:
>>   I refer to a type of antenna (I do not know just what they are called)
but
>> for GPS applications (1500 odd MHz) consist of a metal plate about 1"
square
>> fixed to a ?ceramic material .. on the other side of the ceramic is another
>> metal plate (? ground plane) also about 1" square. The top plare is fed
>> slightly off centre via a hole in the ?ground plane and ceramic material.
>>   Wonder if anyone has any design info (+ theory of operation) on this type
>> of antenna .. I wish to scale it to a possible application around 230 MHz.
>>
>> Ron, VK4BRG.
>>
>>
>> ---
>> You are currently subscribed to picsig as: nielsen@primenet.com
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>>
>
>--
>Bob Nielsen                 Internet: nielsen@primenet.com
>Tucson, AZ                  AMPRnet:  w6swe@w6swe.ampr.org
>DM42nh                      http://www.primenet.com/~nielsen
>
>---
>You are currently subscribed to picsig as: kn6td@clubnet.net
>To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org
>


---
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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org
```

63. [picsig] Re: GPS antennna ?

```
From: Bob Nielsen <nielsen@primenet.com>
Date: Mon, 15 Nov 1999 19:16:31 -0700
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
```

Message-ID: <LYR6890-50053-1999.11.15-20.31.12--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

That's interesting. I've seen circularly polarized patch antennas
before, but they had two feed points (one horizontal, one vertical)
with a 90 degree hybrid coupler.

On Mon, Nov 15, 1999 at 05:47:33PM -0800, Derek Lassen wrote:
> A little more useful is to note that these patch antennas are *circularly*
> polarized.
> ...
> At 05:55 PM 11/15/99 -0700, you wrote:
> >I don't have any technical information, but what you are describing
> >sounds like a "patch" antenna.
> >
> >Bob, W6SWE
> >
> >On Tue, Nov 16, 1999 at 10:20:16AM +1000, Ron Graham wrote:
> >>   I refer to a type of antenna (I do not know just what they are called)
> but
> >> for GPS applications (1500 odd MHz) consist of a metal plate about 1"
> square
> >> fixed to a ?ceramic material .. on the other side of the ceramic is another
> >> metal plate (? ground plane) also about 1" square. The top plare is fed
> >> slightly off centre via a hole in the ?ground plane and ceramic material.
> >>   Wonder if anyone has any design info (+ theory of operation) on this type
> >> of antenna .. I wish to scale it to a possible application around 230 MHz.
> >>
> >> Ron, VK4BRG.
> >>
> >>
> >> ---
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> >>
> >
> >--
> >Bob Nielsen   Internet: nielsen@primenet.com
> >Tucson, AZ   AMPRnet: w6swe@w6swe.ampr.org
> >DM42nh   http://www.primenet.com/~nielsen
> >
> >---
> >You are currently subscribed to picsig as: kn6td@clubnet.net
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>

--
Bob Nielsen   Internet: nielsen@primenet.com
Tucson, AZ   AMPRnet: w6swe@w6swe.ampr.org
DM42nh   http://www.primenet.com/~nielsen

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64. [picsig] Re: GPS antennna ?

From: INFORMATION RESTRICTED <kc7vdg@earthlink.net>
Date: Tue, 16 Nov 1999 03:06:45 -0800
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-50061-1999.11.15-21.26.21--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

It is called a patch antenna. I don't know the theory, but they
generally have massive amplifiers built in to compensate for nearly no
receive area. They can be built for any frequency, I worked with a
company who used them regulary on 450 MHz. I tried to get my hands on
one, but they were't to giving.

Kurt

Ron Graham wrote:
>
>   I refer to a type of antenna (I do not know just what they are called) but
> for GPS applications (1500 odd MHz) consist of a metal plate about 1" square

> fixed to a ?ceramic material .. on the other side of the ceramic is another
> metal plate (? ground plane) also about 1" square. The top plare is fed
> slightly off centre via a hole in the ?ground plane and ceramic material.
>   Wonder if anyone has any design info (+ theory of operation) on this type
> of antenna .. I wish to scale it to a possible application around 230 MHz.
>
> Ron, VK4BRG.
>
> ---
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--
Amateur Radio Stations KC7VDG / KK7RC
Monitor Station Registry KCA6ABB
All Times And Dates UTC
Carson Valley, Nevada

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65. [picsig] Patches.

From: INFORMATION RESTRICTED <kc7vdg@earthlink.net>
Date: Tue, 16 Nov 1999 03:09:35 -0800
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-50062-1999.11.15-21.26.36--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

These are commonly used on cheaper consumer products at 2.4 GHz. I have
six of them, one feedpoint. I worked with a company that used them on
450 MHz, the patch was copper about 10" square, and fed from one end. I
guess it worked fine, sine it was used for satellite work.

Kurt
--
Amateur Radio Stations KC7VDG / KK7RC
Monitor Station Registry KCA6ABB
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Carson Valley, Nevada

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66. [picsig] Re: Patches.

From: James Jefferson <jjeffers@deskmedia.com>
Date: Mon, 15 Nov 1999 22:03:26 -0600
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-50073-1999.11.15-22.17.07--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

You may wish to check out WB9MJN's site at http://www.qth.com/antpanel/

QST had an article on building a GPS patch antenna a few years ago, but I
doubt that it would scale well to 230MHz. It was basically two aluminum
sheets suspended a few cm's apart using nylon standoff's. It did include
some theory of feed point locations and whatnot, IIRC.

-James Jefferson KB0THN

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67. [picsig] Re: GPS antennna ?

From: "Darryl Smith" <vk2tds@ozemail.com.au>
Date: Tue, 16 Nov 1999 18:07:56 +1100
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-50135-1999.11.16-01.20.34--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Ron and Others:

There is some theory in Kraus' text book on these and other antennas... Last christmas there was a great discussion on the Spread Spectrum mailing list on the subject.

The QST antenna should scale to any frequency. In fact it should work nicely with 2.3mm thick double sided PCB (Fibreglass) for a smallish (7cm square approx) gps antenna... Just add an MMIC (Minicircuits ERA-3 or MAR-6).

As for why one feedpoint.... The antennas only appear square.. They are actually not quite, and the feedpoint is in a corner... The theory as I understand it is that with reflections, interference and all that a circularly polarised antenna is produced...

Anyway this is RF (microwave) we are talking about... Some guy even got the yoght container from an airline meal to work, with a few minor mods :-) My WWW page has a few photos of random antenna designs with some microwave dishes...

On that subject... I saw on the news sunday night, the Australian (or USA) government is selling off some DIELECTRIC RADOMES from the WOOMERA rocket base... I would guess they are 45 foot radomes... Only A$9000... About US$6,000.... Cheap at half the price....

Darryl

P.S. Ron, if you want to give me a ring at home on 02 9829 5414 or work on 9268 7361 I would be glad to help]]

Darryl Smith, VK2TDS POBox 169 Ingleburn NSW 2565 Australia
Mobile Number 0412 929 634 [+61 4 12 929 634 International]

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

68. [picsig] Re: Patches.

From: Tim Salo <salo@networkcs.com>
Date: Tue, 16 Nov 1999 08:14:09 -0600 (CST)
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-50158-1999.11.16-08.27.51--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

For what it is worth, there is a brief article about patch antennas in the latest AMSAT proceedings:

> Clifford Buttschardt, K7RR, "435-438 MHz Patch Antenna",
> in Proceedings of the AMSAT-NA 17th Space Symposium,
> October 8-10, 1999. pp28-31.

The QST reference apparently is:

> "A Patch Antenna for the Global Positioning System" H. R. Ward,
> QST, Oct. 1995, page 44.

It appears that there is a lot more science to patch antennas than appears in Cliff's AMSAT paper. I don't know whether the references in his paper contain the information or not.

-tjs

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69. [picsig] GPS antennna ?

From: "Larry P. Thomas wa0gwa" <lpthomas@krell.com>
Date: Tue, 16 Nov 1999 08:54:49 -0600
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-50168-1999.11.16-09.08.28--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

As for why one feedpoint.... The antennas only appear square.. They are actually not quite, and the feedpoint is in a corner... The theory as I understand it is that with reflections, interference and all that a circularly

polarised antenna is produced...
FYI, My understanding has always been. One axis is shorter than resonance
putting the signal in that axis below resonance leading to a capacitive
circuit
(currents leading voltage) and the other axis is longer than resonance
resulting in an above resonance condition (and a lagging current with respect
to voltage). Feedpoint location is picked to real part is near 50 ohm while
reactive parts cancel but the orthogonal currents are 90 degree apart creating
the circularity required. This is not very scientific but helps me understand
how it works.

Later
Larry

- Imagine it / Achieve it - Dream it / Become it -
 Larry P. Thomas   wa0gwa voice : 1 913 888-0282
 Krell Technologies   fax : 1 913 782-9359
 8960 Bond   pager : 1 913 617-HELP
 Overland Park, KS   www.krell.com
 66214-1722   USA   lpthomas@krell.com

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

70. [picsig] Re: Patches.

From: Ron Graham <rongraham@magnet.com.au>
Date: Thu, 18 Nov 1999 07:22:24 +1000
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-50507-1999.11.17-15.31.35--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Many thanks to all those who replied re "patch" antenna.

 Guess a number of us have learned something.

Ron, VK4BRG.

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71. [picsig] Re: PC board etc.

From: Ron Graham <rongraham@magnet.com.au>
Date: Fri, 19 Nov 1999 07:16:11 +1000
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-50699-1999.11.18-15.25.21--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Thanks for the interest shown, by those replied, in that board which
integrates the Aisin GPS RX. I now call the board "APRSGPS" and have put an
introduction to it on my website   http://www.mackay.net.au/~ron
.. look under APRS and then the file "introduction to APRSGPS".

Ron, VK4BRG.

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

72. [picsig] Re: Mavin GPS

From: "KC5GOI" <kc5goi@kc5goi.net>
Date: Sat, 20 Nov 1999 22:35:36 -0600
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Cc: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-51159-1999.11.20-22.51.15--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hello Christopher, I am wishing I had ordered 3 of the Mavin GPS engines now. I got my setup up and
running about 3 weeks or so ago. I pulled the gps engine off the mother board first thing after I
figured out the pinouts. I put the gps engine, Byons chip and a PIC-E kit in a 4X2.5X2 inch projectbox
   I have not installed a backup battery yet and I am not sure if I will. My worst aquision time has
been 7 minuets. I can live with that. I made changes to the pic-e kit and basically piggy backed a
piece of small protoboard with Byons chip in a 8 pin dip socket. I get a bad posit everynow and then.
This error is rather large, less than 100 miles, but it seems to return to a correct value on the next
posit. I may lookinto placing a few strips of copper tape over the opening and see if that helps out.

I am a EMI tech by trade so I have access to a roll of copper tape. A possible theory on why my plastic box may work out better than a metal box is that a metal box confines the emi. If the gps engine or mim is exposed to the emi in a metal enclosure, the result is a higher density of emi. The plastic box allows the emi to get out resulting a lower field density. I am going to try your thoughts about just enclosing the gps engine with the copper tape. Most if not all of the guts of the engine have been designed to withstand local emi. I hope anyway. We had a 100km bike ride today and the Mavin GPS was one of my most reliable setups considering it was on a 5 watt ht and a 5/8 wave antenna. This has been one of my projects that has made me very proud. My thanks goes out to James for telling us about the GPS and Byon for the chip. This turned out to be a very cool project.

73, Guy Story
kc5goi@kc5goi.net
http://www.kc5goi.net
940.243.0754

> ----- Original Message -----
> From: Christopher E Phelps
> To: TAPR APRS Special Interest Group ; kc5goi@kc5goi.net
> Sent: Saturday, November 20, 1999 9:38 PM
> Subject: Mavin GPS

> Hi Guy
> I have also been working with that unit and Byons chip, I have four GPS's of which I have been playing with too. First I have found that the signal from the main BD will not work with it, better to remove engine from main BD. Use the - ttl, pin 6 output to the RD pin of the mim. I have the bat backup wired to the GPS through a diode and resister much like on the main BD. I had found the engine to be rather unstable in its sent position, as far as a mile off. It was suggested to mount it in a metal box to shield it from noise. I mounted it in a 5x4x3-1/4 metal project box with the min and GPS at 90 degrees from one another. when I powered it up, the GPS wouldn't lock up on to the SATs. I took it out and laid them side by side on the table, powered up and it would acquire the SATs just fine(took twenty or more minutes). I then turned it off and remounted in box with backup power connected, powered up and it gave position in a minute or two. I then tested it on a trip to the Socorro Hamfest (about 80 mile to my south). It quit reporting my position about 30 miles out and had lost acquisition until I again removed it from the box. I had also found that if I put the cover on, all the way, the GPS would not report positions to the mim.The box is one of those two part-three sided experimenter ones.
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>
> Chris

73. [picsig] Re: Mavin GPS

From: "Jim Paul" <jamesp@intertex.net>
Date: Sat, 20 Nov 1999 22:48:07 -0600
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-51160-1999.11.20-22.58.17--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

KC5GOI,

KA9QHR (Jim) here. I'd be interested in directions for doing what you did with the Mavis GPS. It does sound interesting. If you want me to, I can post the directions to my website. Let me know.

73.....

Jim

> -----Original Message-----
> From: KC5GOI <kc5goi@kc5goi.net>
> To: TAPR PIC Development Special Interest Group <picsig@lists.tapr.org>
> Cc: TAPR PIC Development Special Interest Group <picsig@lists.tapr.org>
> Date: Saturday, November 20, 1999 10:37 PM
> Subject: [picsig] Re: Mavin GPS

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73, Guy Story
kc5goi@kc5goi.net
http://www.kc5goi.net
940.243.0754

----- Original Message -----
From: Christopher E Phelps
To: TAPR APRS Special Interest Group ; kc5goi@kc5goi.net
Sent: Saturday, November 20, 1999 9:38 PM
Subject: Mavin GPS

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Chris

74. [picsig] Works great!

From: "Byron Lichtenwalner" <w3wkr@ptd.net>
Date: Sun, 21 Nov 1999 16:40:52 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-51251-1999.11.21-15.55.21--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Just a note to thank all the guys involved in the PIC-e development and the helpful notes on here. I built mine last night in about 2 hrs. I tried programming with my IBM laptop, and could not initialize. After all the voltage checks, I tried it on my Aptiva, and it programmed first time, and ll checked out. What a nice device!
Byron

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

75. [picsig] Re: Mavin GPS

From: Ron Graham <rongraham@magnet.com.au>
Date: Tue, 23 Nov 1999 06:43:15 +1000
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-51404-1999.11.22-14.52.22--lyris.picsig#tapr.org@lists.tapr.org>

Rendered body type: text/plain

As I am going ahead to have some PC boards made to integrate this GPS receiver, the 12C672 data translater and the PIC-E (I christened the combination APRSGPS)
I was concerned to read of the problems others were having.

So yesterday, I went and mounted my proto. into a suitable plastic box, did some testing and all appears OK. No shield was added over the GPS. The testing was done in the shack .. problems may arise when fitted into a vehicle due to:
a) crud via 12 V supply from vehicle. I did add extra filtering to, hopefully, allow for this.
b) emi from other equipment (micro's in particular) in the vehicle. I notice in a new vehicle here, a massive birdie on about 145 MHz, coming I think, from the vehicle security system.

Guess one has to cope with these problems on a vehicle to vehicle basis.

Ron, VK4BRG.

>KC5GOI,
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>It does sound interesting. If you want me to, I can post the directions to my website. Let me
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> From: KC5GOI <kc5goi@kc5goi.net>
> To: TAPR PIC Development Special Interest Group <picsig@lists.tapr.org>
> Cc: TAPR PIC Development Special Interest Group <picsig@lists.tapr.org>
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> http://www.kc5goi.net
> 940.243.0754
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><BLOCKQUOTE
>style="BORDER-LEFT: #000000 solid 2px; MARGIN-LEFT: 5px; PADDING-LEFT: 5px">
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>    <BLOCKQUOTE
>    style="BORDER-LEFT: #000000 solid 2px; MARGIN-LEFT: 5px; MARGIN-RIGHT:
0px; PADDING-LEFT: 5px; PADDING-RIGHT: 0px">
>        <DIV style="FONT: 10pt arial">----- Original Message ----- </DIV>
>        <DIV
>        style="BACKGROUND: #e4e4e4; FONT: 10pt arial; font-color:
black"><B>From:</B>
>        <A href="mailto:n2yqp@flash.net" title=n2yqp@flash.net>Christopher E
>        Phelps</A> </DIV>
>        <DIV style="FONT: 10pt arial"><B>To:</B> <A
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>        <DIV style="FONT: 10pt arial"><B>Sent:</B> Saturday, November 20, 1999
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>size=2>Chris </FONT></DIV></BLOCKQUOTE></BLOCKQUOTE></BODY></HTML>
>


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You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org
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76. [picsig] PC boards ?

```
From: Ron Graham <rongraham@magnet.com.au>
Date: Sat, 27 Nov 1999 06:41:39 +1000
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Cc: ozaprs@marconi.mpce.mq.edu.au
Message-ID: <LYR6890-51978-1999.11.26-14.50.24--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain
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I am ordering boards today .. will be away a week or so .. hopefully boards will arrive a few days after my return. They will be tinned double sided (with plated through holes) .. no component overlay to contain costs.

Have been working on paperwork .. have schematic, component overlay and
about 3 pages of construction/testing notes complete.

..snip

Along came that US$20 Aisin GPS receiver, so it was decided to modify the
PC board so as to integrate the GPS RX, its backup battery and the 12C672
data conversion chip. A smallish board 4" x 2 1/2" has resulted .. its about
1 3/8"
high with the RX mounted on its bottom.

..snip

Ron, VK4BRG.

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

77. [picsig] Re: PC boards ?

From: archer@eskimo.com
Date: Fri, 26 Nov 1999 19:09:01 -0800 (PST)
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Cc: ozaprs@marconi.mpce.mq.edu.au
Message-ID: <LYR6890-52006-1999.11.26-21.24.53--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Sat, 27 Nov 1999, Ron Graham wrote:

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> PC board so as to integrate the GPS RX, its backup battery and the 12C672
> data conversion chip. A smallish board 4" x 2 1/2" has resulted .. its about
> 1 3/8"
> high with the RX mounted on its bottom.

I'm familiar with the Aisin boards, 'cuz I have 4 of them sitting here.
My idea was to buy the Aisins just for their amplified antenna, and put
the antenna on the $20 Trimble SveeSix boards that I also recently
snagged. I figured $40 for a six-channel setup with amplified antenna
was a good deal.

Has anyone else had success at this? So far I have the Trimble boards
working in either TAIP or NMEA mode, but using the gpssk software (TAIP
mode) they report a feedline error. I have one friend who got it to
work, but I haven't been able to so far. Is there some trick that I
missed?

I tried cutting the custom connector off the Aisin antennas and soldering
on an SMB connector, and I've also tried desoldering the connector off
the Aisin GPS board and soldering it onto the back side of the Trimble,
keeping the Aisin antenna unmodified. Both results were the same.

Since the Trimble reports a feedline error, it cuts power to the antenna.
Can I feed it in somewhere else on the Trimble? I didn't get a pinout
of the board, but I think the only pin I haven't mapped out so far is
Pin 1 on the 8-pin I/O connector.

Obligatory PIC topic: I plan on putting all of this together with
a minimized PIC-E when I'm all done, but have to get the GPS engine
working first. That'll replace my MIT Handyboard/PK-88/GPS-II+ setup
that I'm running now (from a briefcase).

Curt, WE7U. BowHunter@mail.com
http://www.eskimo.com/~archer
Lotto: A tax on people who are bad at math. - unknown
Windows: Microsoft's tax on computer illiterates. - WE7U.

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

78. [picsig] Adding repeater callsign

From: "Mike Berg" <mikeberg@midstate.tds.net>
Date: Sun, 28 Nov 1999 08:14:10 -0600
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>

Message-ID: <LYR6890-52156-1999.11.28-08.27.37--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Awhile ago, I wrote a PIC-E program that was designed to relay only
valid, compressed MIC-E/PIC-E position packets heard by a repeater.

Now I've been toying with an idea passed on to me by Rick VE3CVG
that involves adding to or changing the digipeater path in order to
convey which repeater the user is on.
I've modified my code to try it both ways. In one version the repeater's
call is simply inserted as the 1st digi, adding one more call to the packet.
In the other, the program parses for the 1st predefined digi like RELAY or
WIDE that hasn't been flagged and changes it to the repeater's callsign.
Either way, the repeater call ends up in the received path
What do folks think of the idea?
73 Mike N0QBH

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

79. [picsig] Re: Adding repeater callsign

From: Bob Bruninga <bruninga@nadn.navy.mil>
Date: Sun, 28 Nov 1999 10:09:30 -0500 (EST)
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-52163-1999.11.28-09.23.58--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Sun, 28 Nov 1999, Mike Berg wrote:

> Awhile ago, I wrote a PIC-E program that was designed to relay only
> valid, compressed MIC-E/PIC-E position packets heard by a repeater.
> Now I've been toying with an idea passed on to me by Rick VE3CVG
> that involves adding to or changing the digipeater path in order to
> convey which repeater the user is on.

THats the original concept of the Mic-E, and it is built into every recent
KPC3 and Paccomm TNC. Just set MYCALL to the frequency of the repeater,
and then every packet passed by that TNC will come out on APRS as being
VIA that repeater. So if the MYCALL is 146760, then the path on APRS will
always appear as:

 W3XYZ>APRS,146760:packet......

Thus you can see where the guy is. In this case he is on the 146.76
repeater.   No software, no special hardware, its done...   The digi uses
the "callsign substitution" to insert its call automatically...

bob

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80. [picsig] Re: Adding repeater callsign

From: "Richard C. Bandla" <rbandla@voicelogix.ca>
Date: Sun, 28 Nov 1999 11:47:24 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-52173-1999.11.28-11.01.36--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Well, Mike has said that he is coding this logic into a PIC based digi -
seems brilliant to me.

As far as I know, this funtionality is only built into new TNC's. All the
ones I own, I had to go and buy new EPROMs for. Along comes Mike and builds
it into a PIC TNC. Pretty good I think. Where can you buy a TNC Digi for $60?

Now - how about finding a way to instantly show on an APRS map, using
colors or words, or a prefix to the displayed call, without any paging thru
lists, etc., what repeater the station is on. THis would only be of use
locally of course, so shud be filtered out of internet stream.

Regards.
Rick (VE3CVG)

At 10:09 1999-11-28 -0500, you wrote:
>On Sun, 28 Nov 1999, Mike Berg wrote:
>
>> Awhile ago, I wrote a PIC-E program that was designed to relay only
>> valid, compressed MIC-E/PIC-E position packets heard by a repeater.
>> Now I've been toying with an idea passed on to me by Rick VE3CVG
>> that involves adding to or changing the digipeater path in order to
>> convey which repeater the user is on.
>
>THats the original concept of the Mic-E, and it is built into every recent
>KPC3 and Paccomm TNC. Just set MYCALL to the frequency of the repeater,
>and then every packet passed by that TNC will come out on APRS as being
>VIA that repeater. So if the MYCALL is 146760, then the path on APRS will
>always appear as:
>
> W3XYZ>APRS,146760:packet......
>
>Thus you can see where the guy is. In this case he is on the 146.76
>repeater.   No software, no special hardware, its done...   The digi uses
>the "callsign substitution" to insert its call automatically...

1355 Minogue Cres., Cumberland, ON, Canada K4C1B4
phone 613 833-2787 (home)   fax 613 833 3032
phone 613 833-1950 (work)

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

81. [picsig] GPS-E-2e

From: Ernie Howard <w8eh@infinet.com>
Date: Mon, 29 Nov 1999 09:32:38 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-52314-1999.11.29-08.48.13--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi,

I've setting up my Pic E and have been having some difficulty. I verified
operation of the radio equipment using picediag.hex. Then I set up and
programmed my Pic using GPS-E-2e.

The problem: No matter the position of the two switches, it doesn't seem
to send a packet automatically. GPS is connected and sending data, valid light
is lit. The active light goes on and off with channel activity.

Once in a while, flipping the switch between manual and automatic causes
a packet to be sent. The packet, when caused to be sent, can be seen on aprs
ok.

I've tried different timings and paths with the same non-results.

Anybody been here before?

Does this particular program need for me to be moving to send anything?

Ernie

--

Ernie Howard, Jr - W8EH
WEB Page: http://www.infinet.com/~w8eh
Email: w8eh@infinet.com

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

82. [picsig] FW: World's smallest web server

From: "Lanier, Robert" <rlanier@harris.com>
Date: Mon, 29 Nov 1999 09:34:07 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-52315-1999.11.29-08.48.30--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

this website claims this is the worlds smallest web server, using a PIC 12C509A.

Tony K4YYZ (was KE4ATO)

-----Original Message-----

http://www-ccs.cs.umass.edu/~shri/iPic.html

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

83. [picsig] Re: GPS-E-2e

From: John Hansen <hansen@fredonia.edu>
Date: Mon, 29 Nov 1999 10:22:20 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-52318-1999.11.29-09.29.22--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 09:32 AM 11/29/99 -0500, you wrote:
>Hi,
>
>I've been setting up my Pic E and have been having some difficulty. I verified
>operation of the radio equipment using picediag.hex. Then I set up and
>programmed my Pic using GPS-E-2e.
>
>The problem: No matter the position of the two switches, it doesn't seem
>to send a packet automatically. GPS is connected and sending data, valid light
>is lit. The active light goes on and off with channel activity.

After the unit power's up under GPS-E-2, it should flash the yellow light once and then send a packet (PTT light flashes). Focus first on looking to see if the red light flashes, not whether the transmitter keys. This will help you determine if there is a problem in the chip, or a problem with the PTT circuit.

Check the timing parameters in the GPS-E-2 program. Note that you are supposed to enter the delay values in seconds, not tens of seconds, but they will be rounded to the nearest tens of seconds. Try setting this value for a fairly short time interval (like every 10 or 20 seconds) and see if the PIC-E responds properly.

Initially, at least, set the SLOW value to 1.

The program does not require that you be moving to transmit. It also does not require that the GPS position be valid, only that data is being received from the GPS, but from your description it sounds like the data is good, but the timing parameters have a problem.

73, John W2FS

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

84. [picsig] Re: GPS-E-2e

From: "Guy J. Story" <kc5goi@pacecar.infospeedway.net>
Date: Mon, 29 Nov 1999 11:05:11 -0600 (EST)
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-52330-1999.11.29-11.19.33--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hello John. After talking to you about GPS-E-2e and my serial port findings while we were at the DCC this year I did some playing around. I am at a loss to explain what I found out. With the previous versions of you software I was unable to tell it to program the pic. My solution to this was to create the hex file and use the picpgrogrammer 060 program. I tried it on my 200 MHz pentium and 100 MHz laptop. Either way, I could not program the pic with GPS-E. When I downloaded your latest release things got interesting. I remember that in our discussion earlier that you asked if I changed any hardware on the 200 MHz machine. I have not changed anything except removing the 72 pin simms and installing a 128 and 32 meg dimms. The laptop had been upgraded from 16 to 40 megs ram as well. The memory upgrade to the laptop and the pc did not show any changes when I used version D. Version E works perfectly on both

machines. Cable length does not seem to be an issue either. I am using a
6 ft cable on the newest rev of the pic-e kit and a 6 inch on the older
kit. I can't explain why, all I know is that it works on 2 machines that
it did not work before. Thanks for creating a program that does the
creation of the hex file and programming. I am still creating the hex
file before I program the pic-e. I then rename it for the specific
application. That way I dont have to remember what settings to program in
the next time we have an event. I just opne the pic programmer and tell
it the correct file.

Thanks alot John. See you at Dayton 2000.

73 from
Guy Story, KC5GOI
Silver Dome MHP # 79
Denton Texas, 76208
www.kc5goi.net
kc5goi@kc5goi.net

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

85. [picsig] Re: PC boards ?

From: "Curt Mills, WE7U" <hacker@tc.fluke.com>
Date: Mon, 29 Nov 1999 13:09:18 -0800 (PST)
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Cc: ozaprs@marconi.mpce.mq.edu.au, Curt Mills <hacker@tc.fluke.com>,
        "Curt Mills, WE7U" <BowHunter@mail.com>
Message-ID: <LYR6890-52360-1999.11.29-15.23.36--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Fri, 26 Nov 1999 archer@eskimo.com wrote:

> I'm familiar with the Aisin boards, 'cuz I have 4 of them sitting here.
> My idea was to buy the Aisins just for their amplified antenna, and put
> the antenna on the $20 Trimble SveeSix boards that I also recently
> snagged. I figured $40 for a six-channel setup with amplified antenna
> was a good deal.

> Since the Trimble reports a feedline error, it cuts power to the antenna.
> Can I feed it in somewhere else on the Trimble? I didn't get a pinout
> of the board, but I think the only pin I haven't mapped out so far is
> Pin 1 on the 8-pin I/O connector.

In case anybody is trying to do the same thing, there's a fix to the
Trimble SveeSix boards that makes them work with the Aisin-Seiko amplified
antennas. E-mail me if you're interested. It's a simple mod.

Also, if anyone knows where to get more Trimble or Aisin GPS's, please
let me know.

Curt Mills, WE7U   hacker.NO_*SPAM@tc.fluke.com
Senior Methods Engineer/SysAdmin
"Lotto: A tax on people who are bad at math." -- unknown
"Windows: Microsoft's tax on computer illiterates." -- WE7U

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

86. [picsig] GPS-E-2e and WIDE#-# paths

From: "Eaton, Michael J" <mjeaton@sandia.gov>
Date: Tue, 30 Nov 1999 09:05:32 -0700
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-52453-1999.11.30-10.19.53--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi,

I recently bought and built a Pic-E (great job on the kit by the way!). I
programmed a chip using the GPS-E-2e software and have run into a situation
that I need help with. If I program the chip using a path such as
"WIDE,WIDE" everything works fine. However, if I attempt to use a path such
as "WIDE3-3, WIDE3-3", the packets I transmit contain no path at all. At
least this is what has been reported to me on the air by other stations. The

result is that if I try to use the "WIDE3-3, WIDE3-3" path, I don't get digipeated and can only been seen when I have a direct path to a receiving station.

I am having difficulty troubleshooting this myself as my Tiny-2 TNC is currently on the fritz (bad RS232 driver...new one on order). Is this behavior a known limitation of the GPS-E-2e code or perhaps am I formatting the path string wrong? I assumed that the software would just insert anything I entered into the path portion of the packet.

I am currently operational using a "WIDE, WIDE", but would like to switch to the other path as recommended by my local digi operators.

Any help would be appreciated

73,

Mike Eaton
K5MJE
Tijeras, NM

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

December 1999

Original source file: picsig.9912
Source: http://ftp.tapr.org/tapr_history/SIG_Archives/picsig/mail_archive/picsig.9912

1. [picsig] Re: GPS-E-2e

From: John Hansen <hansen@fredonia.edu>
Date: Thu, 02 Dec 1999 16:27:02 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-52884-1999.12.02-15.42.25--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 11:05 AM 11/29/99 -0600, you wrote:
>Hello John. After talking to you about GPS-E-2e and my serial port
>findings while we were at the DCC this year I did some playing around. I
>am at a loss to explain what I found out. With the previous versions of
>you software I was unable to tell it to program the pic. My solution to
>this was to create the hex file and use the picpgrogrammer 060 program. I
>tried it on my 200 MHz pentium and 100 MHz laptop. Either way, I could
>not program the pic with GPS-E. When I downloaded your latest release
>things got interesting. I remember that in our discussion earlier that
>you asked if I changed any hardware on the 200 MHz machine. I have not
>changed anything except removing the 72 pin simms and installing a 128 and
>32 meg dimms. The laptop had been upgraded from 16 to 40 megs ram as
>well. The memory upgrade to the laptop and the pc did not show any
>changes when I used version D. Version E works perfectly on both
>machines. Cable length does not seem to be an issue either. I am using a
>6 ft cable on the newest rev of the pic-e kit and a 6 inch on the older
>kit. I can't explain why, all I know is that it works on 2 machines that
>it did not work before. Thanks for creating a program that does the
>creation of the hex file and programming. I am still creating the hex
>file before I program the pic-e. I then rename it for the specific
>application. That way I dont have to remember what settings to program in
>the next time we have an event. I just opne the pic programmer and tell
>it the correct file.
>
>Thanks alot John. See you at Dayton 2000.

I'm WAYYYYY behind on responding to me e-mail... .sorry. I'm not terribly
surprised by the results you've reported. Truly weird things have happened
with that on-board programmer. I have been unable to detect any consistent
pattern, except it seems to like Intel chips better than AMD chips and it
prefers expensive Intel chips to Celeron. I've just attributed that to the
fact that I have a few shares of Intel stock (just kidding).

The main reason I wrote the software so that it would either program or
generate a hex file is that I didn't want the support nightmares that went
along with having only one of those options available. It's turned out to
be a good strategy.

I've got a lot more sympathy for the work that you put in kitting up the
PIC-E now. I had an article on a direct entry keypad for ICOM radios in
the December QST and I've not sold about 75 of them. Putting together the
kits and mailing them out has been a real pain. It seemed so easy when
there were only a handful, but doing it in bulk is quite a different story.

Yes, I'll see you at Dayton for sure.

Thanks again for the note.

73, John W2FS

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

2. [picsig] Re: GPS-E-2e

From: John Hansen <hansen@fredonia.edu>
Date: Thu, 02 Dec 1999 17:11:31 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-52890-1999.12.02-16.26.44--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>I'm WAYYYYY behind on responding to me e-mail... .sorry. I'm not terribly
>surprised by the results you've reported. Truly weird things have

>happened with that

Sorry folks... I thought I was sending that to Guy, not the list. I should
look first before pressing the send key.

John

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

3. [picsig] Tnx and coming soon...

From: "Mike Berg" <mikeberg@midstate.tds.net>
Date: Sat, 4 Dec 1999 20:13:22 -0600
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-53267-1999.12.04-20.27.03--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Just had the honor of seeing my mod in the PSR.
Thanks to whoever's responsible.

I'm currently working on revisions to the RAMPICER.ASM
packet receiving program
that should swat a couple of minor bugs. I'm also working
on a digipeater (previously mentioned) that mimics the new
TNCs by inserting the PIC-E's call in place of the generic
call in the path. Both will be for the FRAM modified PIC-E.

73 Mike Berg N0QBH

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

4. [picsig] APRS PROTOCOL SPECIFICATION

From: Ian Wade <ian@dowrmain.demon.co.uk>
Date: Sun, 5 Dec 1999 06:28:11 +0000
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-53320-1999.12.05-00.48.37--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

==========
APRS PROTOCOL SPECIFICATION
==========

TAPR announces release of the second public draft of
the APRS Protocol Specification.

It's finally here! The APRS Working Group has completed the second
public draft of the APRS Protocol Specification.

This document covers the core functionality of APRS Protocol Version
1.0 as it works today. This is the base level specification that all
implementations should comply with, and it was unanimously adopted by
the Working Group members, who include the authors of APRS-DOS,
WinAPRS, MacAPRS, X-APRS, PocketAPRS, APRS+SA, javAPRS, and APRServe,
and the developers of the Mic-E and Pic-E products.

The Specification forms the basis for future Working Group projects,
including APRS test suites and the APRS Certification Program. The
WG also hopes to use this document as the basis for further
specifications, including IGate and APRS digipeater operation.

Over the last 8 weeks the specification has grown from 18 pages to 93.
It now includes packet format diagrams, the APRS symbol tables, full
details of the Mic-E encoded format, the compressed lat/long position
format, plus weather report and telemetry formats. Above all, the
specification contains many examples of how APRS data is formatted to
make it easier to understand.

The APRS Protocol Specification is now available on the APRS Working
Group web page at: http://www.tapr.org/tapr/html/Faprswg.html.

It is available in PDF format, both zipped and unzipped. The zip file
is a little under 1.5MB. You can read it with a PDF reader such as Adobe
Acrobat 3 or 4.

This document is still a draft. There will now be a 15-day public
discussion period in which anyone may feed back comments, criticisms
and suggestions for improvement. Full information on how to do this is
contained within the document.

The final cutoff for comment is midnight U.S. Pacific time on Sunday 19
December (i.e. 0800 UTC on Monday 20 December).

After this date the Working Group will consider all the comments, and
will issue the final approved version of the Specification as soon as
possible thereafter.

John Ackermann, N8UR (jra@febo.com)
Administrative Chair
APRS Working Group
4 December 1999

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

5. [picsig] WX confusion

From: "Rich Clemens" <clemens@wvwc.edu>
Date: Tue, 7 Dec 1999 08:00:41 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-53722-1999.12.07-07.16.17--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I am working with a Peet Brothers 2000 unit and both a Pic-E and KPC-3 unit.
I find several problems.

If I have the KPC-3 linked directly to the WX unit in packet mode the string
produced is only partially interpreted in the current versions of Win and
Mac APRS and the not at all by a Kenwood TH-D7.

If I have the Pic-E linked directly to the WX unit in packet mode (my
software) I can produce a string that is (almost) completely interpreted by
all three but not in the same manner. Humiditiy is always ignored and a
rainfall amount such as p003 is .03 on the Kenwood and .3 on the software.

I trust the new standards going to "correct" these problems?

--
Richard Clemens
clemens@wvwc.edu

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

6. [picsig] FWD: Serial SRAM/FRAM resources

From: Jeff King <jeff@aerodata.net>
Date: Tue, 07 Dec 1999 14:42:43 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-53769-1999.12.07-13.55.05--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Saw the following on the PICLIST, and thought it might
be of interest to those with a PIC RAM shortage.

-Jeff

-------- Original Message --------
From: James Newton <eplus1@SAN.RR.COM>
Subject: Re: [OT] the largest serial ram on the market
To: PICLIST@MITVMA.MIT.EDU

I maintain a page on SRAM's (including serial SRAM) at:

http://204.210.50.240/techref/default.asp?url=mem/srams.htm

and on SPI memory (FLASH and SRAM) at

http://204.210.50.240/techref/default.asp?url=mem/spi.htm

http://www.ramtron.com has just released an 8K byte FRAM chip with a
proprietary 2 wire interface and provide 2k byte memories in their 2-wire
and SPI types. FRAM seems to be a great combination of FLASH non-volatility
with RAM speed but - watch out for invalid writes on power fail see:
http://www.iversoft.com/piclist/9708/1151.shtml

http://www.okisemi.com "Serial voice register" series
http://www.okisemi.com/communicator/public/fm/docs/SpeechTables-2.html
1 bit data registers: MSM6685 (8Mx1), MSM6389C (1Mx1). Internal address
counter provides continuous data stream presetable in 1k blocks. I don't
have any info on price or availability. Please let me know if this turns out
to be a good option.

I have been told that there are video frame buffer chips that can be used as
serial ram but have not seen any evidence of this.

I also think that it is just the sort of chip that would be invaluable in
one of these new pocket sized DSO's or Digital O'Scopes or that HP thing
that is midpoint between a logic probe and a logic analyzer. Has anyone the
source for the chips used in these types of devices.

Please add me to the list of people who are looking. If you sign up with the
techref, you can post your finding for all of us on the pages referenced
above.

James Newton mailto:jamesnewton@geocities.com phone:1-619-652-0593
http://techref.homepage.com NOW OPEN (R/O) TO NON-MEMBERS!
Members can add private/public comments/pages ($0 TANSTAAFL web hosting)
PIC/PICList FAQ: http://www.piclist.com

-----Original Message-----
From: pic microcontroller discussion list
[mailto:PICLIST@MITVMA.MIT.EDU]On Behalf Of Keith Causey
Sent: Monday, December 06, 1999 10:26 PM
To: PICLIST@MITVMA.MIT.EDU
Subject: [OT] the largest serial ram on the market

Hello all, what is the largest density serial ram that is on the market?
Thanks

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

7. [picsig] APRSGPS PC boards

From: Ron Graham <rongraham@magnet.com.au>
Date: Wed, 08 Dec 1999 17:07:01 +1000
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Cc: ozaprs@marconi.mpce.mq.edu.au
Message-ID: <LYR6890-53833-1999.12.08-01.15.00--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Boards have arrived .. look good .. was concerned re getting hole sizes
correct, so went ahead and assembled one .. all components fitted OK.
Situation normal, price was a bit more than what I had estimated!!!!
 They are tinned double sided (with plated through holes) .. no component
overlay to contain costs.
 Have been working on paperwork .. have schematic, component overlay, parts
list and about 6 pages of fairly comprehensive construction/testing notes.
 Can e-mail, as an attatchment, parts list and/or the l-o-n-g file
construction/testing notes if anyone wishes.
 There already are some notes on my web site re this unit:
http://www.mackay.net.au/~ron/aprs/aprsgps1.htm (note character after the
last   s is the figure one.)
 Also, have been getting parts together to make a kit available. This would
include all parts to complete the PC board, including parts to mount the
receiver, but LESS the 2 PIC and modem chips, and, of course, the Ainsin GPS
receiver.
 I have done some work re fitting the complete unit into a plastic box, and
will persue this if there is sufficient interest.
 Thoughts, at present, are to offer:
Package 1 .. PC board and paperwork mentioned above, including 1st class airmail
             to USA US$15.00
above plus 1 extra PC board .. this fits in with above postage.

US$24.00

Package 2 .. package 1 plus above mentioned board level kit (no IC's) incl. post
US$40.00

Package 3 .. package 2 plus parts to make programming cable .. 5 pin header
plug, ribbon cable, female DB9 or DB25 .. specify which fits your
computer serial port.
US$43.00

Note, naturally, only 1 set of paperwork and 1 programming cable required
for those that wish to build more than 1 unit. Please ask re pricing for
anything differing from the above packages.
I will contact those who enquired from Aust. and NZ re local prices/postage.

..snip

Along came that US$20 Aisin GPS receiver, so it was decided to modify the
PC board so as to integrate the GPS RX, its backup battery and the 12C672
data conversion chip. A smallish board 4" x 2 1/2" has resulted .. its about
1 3/8"
high with the RX mounted on its bottom.

..snip

Ron, VK4BRG.

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

8. [picsig] Re: WX confusion

From: Bob Bruninga <bruninga@nadn.navy.mil>
Date: Wed, 8 Dec 1999 09:28:27 -0500 (EST)
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-53856-1999.12.08-08.43.16--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Tue, 7 Dec 1999, Rich Clemens wrote:

> If I have the Pic-E linked directly to the WX unit in packet mode (my
> software) I can produce a string that is (almost) completely interpreted by
> all three but not in the same manner. Humiditiy is always ignored and a
> rainfall amount such as p003 is .03 on the Kenwood and .3 on the software.

The value of p003 is .03 as correctly displayed on the Kenwood and (I
hope) APRSdos.

Bob

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

9. [picsig] swap my Aisin for your Trimble Svee6?

From: "Zhahai Stewart" <zhahai@hisys.com>
Date: Wed, 8 Dec 1999 21:38:54 -0700
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-54155-1999.12.08-22.54.33--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

OK, cheap tracker mix and match time...

I have two of the Aisin GPSs, with powered antennas. Unused,
unmodified. (Darn, with I'd bought more)

Is anybody interested in swapping one of them for one of the Trimble S
vee six boards (without antenna)? I'm imagining somebody who got
more than one Trimble unit, and isn't going to get around to buying or
making powered antennas for all of them anyway. Win/win.

(If this is too far afield for the group, somebody official please let me
know by email, and I won't do it again. Thanks.)

Zhahai KA0YVM

```
@ Zhahai Stewart       zhahai@hisys.com
@ A Meme Gardener      http://rainbow.rmi.net/~hisys/zhahai.html
@ Standard Disclaimer  YMMV - Your Maya May Vary

---
You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org
```

10. [picsig] Re: swap my Aisin for your Trimble Svee6?

```
From: "Jim Paul" <jamesp@intertex.net>
Date: Wed, 8 Dec 1999 23:02:53 -0600
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-54181-1999.12.08-23.14.21--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain
```

```
Zhahai,

I'm the person you described in your email below.
I'd be glad to trade with you one of your Aisin boards
for one of my SVeeSix Trimble boards.
How do you want to handle this transaction?
Let me know.

                                                    Regards,

                                                         Jim

my email address is jim@jpes.com
-----Original Message-----
From: Zhahai Stewart <zhahai@hisys.com>
To: TAPR PIC Development Special Interest Group <picsig@lists.tapr.org>
Date: Wednesday, December 08, 1999 10:40 PM
Subject: [picsig] swap my Aisin for your Trimble Svee6?


OK, cheap tracker mix and match time...

I have two of the Aisin GPSs, with powered antennas.  Unused,
unmodified.  (Darn, with I'd bought more)

Is anybody interested in swapping one of them for one of the Trimble S
vee six boards (without antenna)?  I'm imagining somebody who got
more than one Trimble unit, and isn't going to get around to buying or
making powered antennas for all of them anyway.  Win/win.

(If this is too far afield for the group, somebody official please let me
know by email, and I won't do it again. Thanks.)

Zhahai  KA0YVM


@ Zhahai Stewart       zhahai@hisys.com
@ A Meme Gardener      http://rainbow.rmi.net/~hisys/zhahai.html
@ Standard Disclaimer  YMMV - Your Maya May Vary

---
You are currently subscribed to picsig as: jamesp@intertex.net
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org



---
You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org
```

11. [picsig] Re: APRSGPS PC boards

```
From: "Zhahai Stewart" <zhahai@hisys.com>
Date: Wed, 8 Dec 1999 22:46:36 -0700
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-54195-1999.12.09-00.02.21--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain
```

```
Correction - Ron's web pages appear to be at:

http://www.mackay.net.au/~ron/aprsgps1.htm

regards, Z
```

```
@ Zhahai Stewart       zhahai@hisys.com
@ A Meme Gardener      http://rainbow.rmi.net/~hisys/zhahai.html
@ Standard Disclaimer  YMMV - Your Maya May Vary

---
You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org
```

12. [picsig] PTT Selection Problem

```
From: "Haechler, Urs" <Urs.Haechler@compaq.com>
Date: Fri, 10 Dec 1999 08:31:09 +0100
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-54411-1999.12.10-01.45.59--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain
```

Hello
I have just assemblied my PIC-E Encoder. The test software work fine, but
when I toggle the mode switch nothing happens on my radio. The red ptt led
go's on,but the radio will not transmitt. J3 J4 J5 J6 are assembled as
described in the manual.
When the PTT led is on I have + 3.7 Volts on the PTT line on the J5 and J2,
when the led
is off I have +0.3 volts.On the PTT Line in J1 I have allways +5 Volts. I
guess for transmitting there is only a connection from the ptt line to
ground .
Any ideas what is wrong.
Many thanks HB9DDE

Urs Haechler

Compaq Computer AG

> *   Office: +41 1 801 27 30
> *   Fax: +41 1 801 28 93
> *   Mobile: +41 79 331 71 07
> * Internet: urs.haechler@compaq.com
>
>
>

```
---
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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org
```

13. [picsig] GPS-E-2e and WIDE#-# paths ... again

```
From: "Eaton, Michael J" <mjeaton@sandia.gov>
Date: Fri, 10 Dec 1999 09:58:19 -0700
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-54454-1999.12.10-11.13.41--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain
```

I submitted this post a week ago and got no responses, so.... I'm going to
try one more time and hope someone can give me some insight.

I recently bought and built a Pic-E (great job on the kit by the way!). I
programmed a chip using the GPS-E-2e software and have run into a situation
that I need help with. If I program the chip using a path such as
"WIDE,WIDE" everything works fine. However, if I attempt to use a path such
as "WIDE3-3, WIDE3-3", the packets I transmit contain no path at all. At
least this is what has been reported to me on the air by other stations. The
result is that if I try to use the "WIDE3-3, WIDE3-3" path, I don't get
digipeated and can only been seen when I have a direct path to a receiving
station.

I am having difficulty troubleshooting this myself as my Tiny-2 TNC is
currently on the fritz (bad RS232 driver...new one on order). Is this
behavior a known limitation of the GPS-E-2e code or perhaps am I formatting
the path string wrong? I assumed that the software would just insert
anything I entered into the path portion of the packet.

I am currently operational using a "WIDE, WIDE", but would like to switch to
the other path as recommended by my local digi operators.

Any help would be appreciated

73,

Mike Eaton, K5MJE
Tijeras, NM

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

14. [picsig] Re: GPS-E-2e and WIDE#-# paths ... again

From: John Hansen <hansen@fredonia.edu>
Date: Fri, 10 Dec 1999 12:25:58 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-54460-1999.12.10-11.42.59--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I haven't had a chance to test this on the air yet, but I did do the
following: I ran the GUI program and replaced the path with
WIDE3-3,WIDE3-3,WIDE3-3, and then told it to create the OUTPUT.HEX file. I
then examined the output.hex file to see what it produced. At that point,
at least, it seemed to be producing exactly the values that it
should. I've also examined the source code for PIC and I can't find
anything in there that would cause the problem you've described. That is,
all it does is transmit characters until it runs into the odd value that
indicates that the path is done (this is standard to the AX.25
protocol). The next step will be to put it on the air and copy it with a
TNC. I'll attempt to get to this in the next few days. It's the end of
the semester here and we're moving into finals grading time :(In the
meantime, if anyone else has a chance to test this, please let me know of
the results.

John, W2FS

At 09:58 AM 12/10/99 -0700, you wrote:
>I submitted this post a week ago and got no responses, so.... I'm going to
>try one more time and hope someone can give me some insight.
>
>
>I recently bought and built a Pic-E (great job on the kit by the way!). I
>programmed a chip using the GPS-E-2e software and have run into a situation
>that I need help with. If I program the chip using a path such as
>"WIDE,WIDE" everything works fine. However, if I attempt to use a path such
>as "WIDE3-3, WIDE3-3", the packets I transmit contain no path at all. At
>least this is what has been reported to me on the air by other stations. The
>result is that if I try to use the "WIDE3-3, WIDE3-3" path, I don't get
>digipeated and can only been seen when I have a direct path to a receiving
>station.
>
>I am having difficulty troubleshooting this myself as my Tiny-2 TNC is
>currently on the fritz (bad RS232 driver...new one on order). Is this
>behavior a known limitation of the GPS-E-2e code or perhaps am I formatting
>the path string wrong? I assumed that the software would just insert
>anything I entered into the path portion of the packet.
>
>I am currently operational using a "WIDE, WIDE", but would like to switch to
>the other path as recommended by my local digi operators.
>
>Any help would be appreciated
>
>73,
>
>Mike Eaton, K5MJE
>Tijeras, NM
>
>
>---
>You are currently subscribed to picsig as: john@hansen.net
>To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

---
You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

15. [picsig] Re: GPS-E-2e and WIDE#-# paths ... again

From: Doug Bade <dbade@clecom.com>
Date: Fri, 10 Dec 1999 13:21:32 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-54467-1999.12.10-12.36.38--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I have never tried what you are doing, however it is quite possible the
pic e code may not be allowing it. No one that I know of has tested it in
wide N mode, I will have to test my setup and see if I get the same
results. we have wide N digi's here but most still use wide,wide.. I'll
reply in future if I can duplicate or not.. 73, Doug KB8GVQ

At 09:58 AM 12/10/99 -0700, you wrote:
>I submitted this post a week ago and got no responses, so.... I'm going to
>try one more time and hope someone can give me some insight.
>
>
>I recently bought and built a Pic-E (great job on the kit by the way!). I
>programmed a chip using the GPS-E-2e software and have run into a situation
>that I need help with. If I program the chip using a path such as
>"WIDE,WIDE" everything works fine. However, if I attempt to use a path such
>as "WIDE3-3, WIDE3-3", the packets I transmit contain no path at all. At
>least this is what has been reported to me on the air by other stations. The
>result is that if I try to use the "WIDE3-3, WIDE3-3" path, I don't get
>digipeated and can only been seen when I have a direct path to a receiving
>station.
>
>I am having difficulty troubleshooting this myself as my Tiny-2 TNC is
>currently on the fritz (bad RS232 driver...new one on order). Is this
>behavior a known limitation of the GPS-E-2e code or perhaps am I formatting
>the path string wrong? I assumed that the software would just insert
>anything I entered into the path portion of the packet.
>
>I am currently operational using a "WIDE, WIDE", but would like to switch to
>the other path as recommended by my local digi operators.
>
>Any help would be appreciated
>
>73,
>
>Mike Eaton, K5MJE
>Tijeras, NM
>
>
>---
>You are currently subscribed to picsig as: doug@clecom.com
>To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

---
You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

16. [picsig] Re: GPS-E-2e and WIDE#-# paths ... again

From: "John B. Leonard, Jr." <jleonard@tbcnet.com>
Date: Fri, 10 Dec 1999 11:33:36 -0600
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-54468-1999.12.10-13.15.01--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

As far as I know, the "wide3-3" is only used once, in other words, if a digi
is capable of the "widex-x" scheme, then it's only applied once. A
"wide,wide" will hit a "wide" then go to another "wide" and stop.

So, bottom line is, only use wide3-3 once.

jbl

----- Original Message -----
From: Eaton, Michael J <mjeaton@sandia.gov>
To: TAPR PIC Development Special Interest Group <picsig@lists.tapr.org>
Sent: Friday, December 10, 1999 10:58 AM
Subject: [picsig] GPS-E-2e and WIDE#-# paths ... again

> I submitted this post a week ago and got no responses, so.... I'm going to
> try one more time and hope someone can give me some insight.
>
>
> I recently bought and built a Pic-E (great job on the kit by the way!). I

> programmed a chip using the GPS-E-2e software and have run into a
situation
> that I need help with. If I program the chip using a path such as
> "WIDE,WIDE" everything works fine. However, if I attempt to use a path
such
> as "WIDE3-3, WIDE3-3", the packets I transmit contain no path at all. At
> least this is what has been reported to me on the air by other stations.
The
> result is that if I try to use the "WIDE3-3, WIDE3-3" path, I don't get
> digipeated and can only been seen when I have a direct path to a receiving
> station.
>
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> currently on the fritz (bad RS232 driver...new one on order). Is this
> behavior a known limitation of the GPS-E-2e code or perhaps am I
formatting
> the path string wrong? I assumed that the software would just insert
> anything I entered into the path portion of the packet.
>
> I am currently operational using a "WIDE, WIDE", but would like to switch
to
> the other path as recommended by my local digi operators.
>
> Any help would be appreciated
>
> 73,
>
> Mike Eaton, K5MJE
> Tijeras, NM
>
>
> ---
> You are currently subscribed to picsig as: jleonard@tbcnet.com
> To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

---
You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

17. [picsig] RE: PTT Selection Problem

From: "Steven R. Bible" <n7hpr@tapr.org>
Date: Fri, 10 Dec 1999 16:06:23 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-54486-1999.12.10-15.21.10--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Urs,

Just to make sure, do you have the jumper between J4 and J5 for PTT only
(the pin that corellates to the radio PTT line)?

The PIC-E asserts PTT to ground to cause your radio to transmit. A HIGH
out of the PIC16F84 pin 1 drives LED D5 to light and Q1 to saturate.
The collector of Q1 should go to ground, less the voltage drop across Q1
of 0.7 volts. The ground should be seen thru D7 to J5. If you are
using a mobile radio, make sure you have a jumper on JP3. If it is a
handheld that needs a resistor in line (like Yaesu and Icoms) them
remove JP3.

Hope this helps.

- Steve

> -----Original Message-----
> From: bounce-picsig-6889@lists.tapr.org
> [mailto:bounce-picsig-6889@lists.tapr.org]On Behalf Of Haechler, Urs
> Sent: Friday, December 10, 1999 2:31 AM
> To: TAPR PIC Development Special Interest Group
> Subject: [picsig] PTT Selection Problem
>
>
> Hello
> I have just assemblied my PIC-E Encoder. The test software
> work fine, but
> when I toggle the mode switch nothing happens on my radio.
> The red ptt led

> go's on,but the radio will not transmitt. J3 J4 J5 J6 are assembled as
> described in the manual.
> When the PTT led is on I have + 3.7 Volts on the PTT line on
> the J5 and J2,
> when the led
> is off I have +0.3 volts.On the PTT Line in J1 I have
> allways +5 Volts. I
> guess for transmitting there is only a connection from the ptt line to
> ground .
> Any ideas what is wrong.
> Many thanks HB9DDE

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

18. [picsig] Re: PTT Selection Problem

From: James Jefferson <jjeffers@deskmedia.com>
Date: Fri, 10 Dec 1999 15:48:47 -0600
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-54493-1999.12.10-16.03.26--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>when I toggle the mode switch nothing happens on my radio. The red ptt led
>go's on,but the radio will not transmitt. J3 J4 J5 J6 are assembled as
>described in the manual.

My PIC-E beta also will not key some of my transmitters. In other projects
I'm now using a 4N25 optoisolator with a 330ohm current limiting resistor.
Works flawlessly with everything. If you don't have any luck with the NPN
then this might be an option.

-James Jefferson

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

19. [picsig] RE: PTT Selection Problem

From: "Haechler, Urs" <Urs.Haechler@compaq.com>
Date: Fri, 10 Dec 1999 23:07:57 +0100
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-54495-1999.12.10-16.22.51--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Steve

Many thanks for your explanation. As I can verify the collector of Q1 is
connected to ground. When the LED D5 is on then I have 0.7 volts on the
basis of Q1. I can follow the ground signal to the anode of D7. The signal
stop there. So ground will not be routet to J5. I see the D7 is inserted the
right way, but this diode will block the signal. When I pass D7 with a wire
bridge then ground go to J5.I guess this is not the solution. I verifyed all
solder pads, they are ok.
The rest of PIC-E is working fine.

-Urs HB9DDE

-----Original Message-----
From: Steven R. Bible [mailto:n7hpr@tapr.org]
Sent: Freitag, 10. Dezember 1999 22:06
To: TAPR PIC Development Special Interest Group
Subject: [picsig] RE: PTT Selection Problem

Urs,

Just to make sure, do you have the jumper between J4 and J5 for PTT only
(the pin that corellates to the radio PTT line)?

The PIC-E asserts PTT to ground to cause your radio to transmit. A HIGH
out of the PIC16F84 pin 1 drives LED D5 to light and Q1 to saturate.
The collector of Q1 should go to ground, less the voltage drop across Q1
of 0.7 volts. The ground should be seen thru D7 to J5. If you are
using a mobile radio, make sure you have a jumper on JP3. If it is a
handheld that needs a resistor in line (like Yaesu and Icoms) them
remove JP3.

Hope this helps.

- Steve

> -----Original Message-----
> From: bounce-picsig-6889@lists.tapr.org
> [mailto:bounce-picsig-6889@lists.tapr.org]On Behalf Of Haechler, Urs
> Sent: Friday, December 10, 1999 2:31 AM
> To: TAPR PIC Development Special Interest Group
> Subject: [picsig] PTT Selection Problem
>
>
> Hello
> I have just assemblied my PIC-E Encoder. The test software
> work fine, but
> when I toggle the mode switch nothing happens on my radio.
> The red ptt led
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> When the PTT led is on I have + 3.7 Volts on the PTT line on
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> when the led
> is off I have +0.3 volts.On the PTT Line in J1 I have
> allways +5 Volts. I
> guess for transmitting there is only a connection from the ptt line to
> ground .
> Any ideas what is wrong.
> Many thanks HB9DDE

You are currently subscribed to picsig as: urs.haechler@compaq.com
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

---
You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

20. [picsig] RE: PTT Selection Problem

From: "Steven R. Bible" <n7hpr@tapr.org>
Date: Fri, 10 Dec 1999 17:38:50 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-54500-1999.12.10-16.53.35--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

If the ground is not passing, the diode could be bad. Use a DVM to
measure forward/reverse resistance to check the diode.

- Steve

> -----Original Message-----
> From: bounce-picsig-6889@lists.tapr.org
> [mailto:bounce-picsig-6889@lists.tapr.org]On Behalf Of Haechler, Urs
> Sent: Friday, December 10, 1999 5:08 PM
> To: TAPR PIC Development Special Interest Group
> Subject: [picsig] RE: PTT Selection Problem
>
>
> Steve
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> Many thanks for your explanation. As I can verify the
> collector of Q1 is
> connected to ground. When the LED D5 is on then I have 0.7
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> D7 with a wire
> bridge then ground go to J5.I guess this is not the solution.
> I verifyed all
> solder pads, they are ok.
> The rest of PIC-E is working fine.
>
> -Urs HB9DDE

>
>
> -----Original Message-----
> From: Steven R. Bible [mailto:n7hpr@tapr.org]
> Sent: Freitag, 10. Dezember 1999 22:06
> To: TAPR PIC Development Special Interest Group
> Subject: [picsig] RE: PTT Selection Problem
>
>
> Urs,
>
> Just to make sure, do you have the jumper between J4 and J5
> for PTT only
> (the pin that corellates to the radio PTT line)?
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> transmit. A HIGH
> out of the PIC16F84 pin 1 drives LED D5 to light and Q1 to saturate.
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> drop across Q1
> of 0.7 volts. The ground should be seen thru D7 to J5. If you are
> using a mobile radio, make sure you have a jumper on JP3. If it is a
> handheld that needs a resistor in line (like Yaesu and Icoms) them
> remove JP3.
>
> Hope this helps.
>
> - Steve
>
>
> > -----Original Message-----
> > From: bounce-picsig-6889@lists.tapr.org
> > [mailto:bounce-picsig-6889@lists.tapr.org]On Behalf Of Haechler, Urs
> > Sent: Friday, December 10, 1999 2:31 AM
> > To: TAPR PIC Development Special Interest Group
> > Subject: [picsig] PTT Selection Problem
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> > I have just assemblied my PIC-E Encoder. The test software
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> > allways +5 Volts. I
> > guess for transmitting there is only a connection from the
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> > ground .
> > Any ideas what is wrong.
> > Many thanks HB9DDE
>
>
> ---
> You are currently subscribed to picsig as: urs.haechler@compaq.com
> To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org
>
> ---
> You are currently subscribed to picsig as: srbible@gate.net
> To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org
>
>

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

21. [picsig] Re: GPS-E-2e and WIDE#-# paths ... again

From: Bob Nielsen <nielsen@primenet.com>
Date: Sat, 11 Dec 1999 07:52:53 -0700
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-54607-1999.12.11-09.07.44--lyris.picsig#tapr.org@lists.tapr.org>

Rendered body type: text/plain

Pardon a stupid question here. What is the function and purpose of
WID3-3,WIDE3-3,WIDE3-3? Does the first WIDE3-3 decrement through digis
until it hits zero and then the next one is used? Is this the same as WIDE9-9
(which sounds a bit excessive)?

Bob

On Fri, Dec 10, 1999 at 12:25:58PM -0500, John Hansen wrote:
> I haven't had a chance to test this on the air yet, but I did do the
> following: I ran the GUI program and replaced the path with
> WIDE3-3,WIDE3-3,WIDE3-3, and then told it to create the OUTPUT.HEX file. I
> then examined the output.hex file to see what it produced. At that point,
> at least, it seemed to be producing exactly the values that it
> should. I've also examined the source code for PIC and I can't find
> anything in there that would cause the problem you've described. That is,
> all it does is transmit characters until it runs into the odd value that
> indicates that the path is done (this is standard to the AX.25
> protocol). The next step will be to put it on the air and copy it with a
> TNC. I'll attempt to get to this in the next few days. It's the end of
> the semester here and we're moving into finals grading time :(In the
> meantime, if anyone else has a chance to test this, please let me know of
> the results.
>
>
> John, W2FS
>
> At 09:58 AM 12/10/99 -0700, you wrote:
> >I submitted this post a week ago and got no responses, so.... I'm going to
> >try one more time and hope someone can give me some insight.
> >
> >
> >I recently bought and built a Pic-E (great job on the kit by the way!). I
> >programmed a chip using the GPS-E-2e software and have run into a situation
> >that I need help with. If I program the chip using a path such as
> >"WIDE,WIDE" everything works fine. However, if I attempt to use a path such
> >as "WIDE3-3, WIDE3-3", the packets I transmit contain no path at all. At
> >least this is what has been reported to me on the air by other stations. The
> >result is that if I try to use the "WIDE3-3, WIDE3-3" path, I don't get
> >digipeated and can only been seen when I have a direct path to a receiving
> >station.
> >
> >I am having difficulty troubleshooting this myself as my Tiny-2 TNC is
> >currently on the fritz (bad RS232 driver...new one on order). Is this
> >behavior a known limitation of the GPS-E-2e code or perhaps am I formatting
> >the path string wrong? I assumed that the software would just insert
> >anything I entered into the path portion of the packet.
> >
> >I am currently operational using a "WIDE, WIDE", but would like to switch to
> >the other path as recommended by my local digi operators.
> >
> >Any help would be appreciated
> >
> >73,
> >
> >Mike Eaton, K5MJE
> >Tijeras, NM
> >
> >
> >---
> >You are currently subscribed to picsig as: john@hansen.net
> >To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org
>
>
>
> ---
> You are currently subscribed to picsig as: nielsen@primenet.com
> To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org
>

--
Bob Nielsen, W6SWE (RN2)   Internet: nielsen@primenet.com
Tucson, AZ DM42nh   AMPRnet: w6swe@w6swe.ampr.org
QRP-L #1985   http://www.primenet.com/~nielsen

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

22. [picsig] RE: PTT Selection Problem

From: "Haechler, Urs" <Urs.Haechler@compaq.com>
Date: Sat, 11 Dec 1999 23:27:53 +0100
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-54645-1999.12.11-16.42.41--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I replaced the brocken D7 and tried with a other radio. Nw it works fine.
Many thanks for all of your hels.

- Urs

-----Original Message-----
From: Steven R. Bible [mailto:n7hpr@tapr.org]
Sent: Freitag, 10. Dezember 1999 23:39
To: TAPR PIC Development Special Interest Group
Subject: [picsig] RE: PTT Selection Problem

If the ground is not passing, the diode could be bad. Use a DVM to
measure forward/reverse resistance to check the diode.

- Steve

> -----Original Message-----
> From: bounce-picsig-6889@lists.tapr.org
> [mailto:bounce-picsig-6889@lists.tapr.org]On Behalf Of Haechler, Urs
> Sent: Friday, December 10, 1999 5:08 PM
> To: TAPR PIC Development Special Interest Group
> Subject: [picsig] RE: PTT Selection Problem
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> Steve
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> Many thanks for your explanation. As I can verify the
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> D7. The signal
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> I verifyed all
> solder pads, they are ok.
> The rest of PIC-E is working fine.
>
> -Urs HB9DDE
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> -----Original Message-----
> From: Steven R. Bible [mailto:n7hpr@tapr.org]
> Sent: Freitag, 10. Dezember 1999 22:06
> To: TAPR PIC Development Special Interest Group
> Subject: [picsig] RE: PTT Selection Problem
>
>
> Urs,
>
> Just to make sure, do you have the jumper between J4 and J5
> for PTT only
> (the pin that corellates to the radio PTT line)?
>
> The PIC-E asserts PTT to ground to cause your radio to
> transmit. A HIGH
> out of the PIC16F84 pin 1 drives LED D5 to light and Q1 to saturate.
> The collector of Q1 should go to ground, less the voltage
> drop across Q1
> of 0.7 volts. The ground should be seen thru D7 to J5. If you are
> using a mobile radio, make sure you have a jumper on JP3. If it is a
> handheld that needs a resistor in line (like Yaesu and Icoms) them
> remove JP3.
>
> Hope this helps.
>

> - Steve
>
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> > From: bounce-picsig-6889@lists.tapr.org
> > [mailto:bounce-picsig-6889@lists.tapr.org]On Behalf Of Haechler, Urs
> > Sent: Friday, December 10, 1999 2:31 AM
> > To: TAPR PIC Development Special Interest Group
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---
You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

23. [picsig] RE: PTT Selection Problem

From: John Rauch <john_rauch@email.com>
Date: Sun, 12 Dec 1999 12:58:30 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-54792-1999.12.12-12.12.34--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Aaah!!!! Another HAPPY Customer!! :-)

John

At 11:27 PM 12/11/99 +0100, you wrote:
>I replaced the brocken D7 and tried with a other radio. Nw it works fine.
>Many thanks for all of your hels.
>
>- Urs
>
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>From: Steven R. Bible [mailto:n7hpr@tapr.org]
>Sent: Freitag, 10. Dezember 1999 23:39
>To: TAPR PIC Development Special Interest Group
>Subject: [picsig] RE: PTT Selection Problem
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>>
>>
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>> > Sent: Friday, December 10, 1999 2:31 AM
>> > To: TAPR PIC Development Special Interest Group
>> > Subject: [picsig] PTT Selection Problem
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>You are currently subscribed to picsig as: n4jhr@earthlink.net
>To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org
>
>
>
John Rauch
(407) 869-1450 (Home)
Orlando, Florida
n4jhr@email.com
john_rauch@email.com

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

24. [picsig] Compressed Packets near the Prime Meridian

From: John Hansen <hansen@fredonia.edu>
Date: Sun, 12 Dec 1999 15:53:29 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Cc: Urs.Haechler@compaq.com
Message-ID: <LYR6890-54825-1999.12.12-15.09.30--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi:

        I was contacted yesterday by a ham in Switzerland who is having trouble
getting the GPS-E-2 software to register the proper longitude when he is at
7 degrees east longitude. According to the MIC-E protocol specification in
the MIC-E manual, 7 degrees should be treated as 0xE1. I concluded this by
reversing the decode steps in the mic-e manual's protocol
specification. The following is from the mic-e manual:

[D + 28] Binary degrees of longitude. To decode:
1.subtract 28
2.subtract 80 if 180 <= D <= 189
3.or, subtract 190 if 190 <= D <= 199
4.if the [L] bit is set, add 100 to get final value of longitude.

To decode the value E1 (decimal 225), I first subtract 28 to get 197. This
is between 190 and 199, so I subtract 190 and get 7.   The L bit is not
set, so E1 should translate to 7 degrees. Thus my code is transmitting E1
to represent 7 degrees.   He has been able to verify that his PIC-E running
my code is indeed transmitting E1.

Yet when he displays this value using WinAPRS 2.4, he says it shows his
position at 69 degrees east longitude. Either I have some misunderstanding
about how this correction is supposed to be done, or there is an error in
the version of WinAPRS that he is using. Can anyone shed any light on this?

Thanks,

John W2FS

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

25. [picsig] Re: Possible descrepancy in the MIC-E Protocol Definition

From: Ian Wade <ian@dowrmain.demon.co.uk>
Date: Wed, 15 Dec 1999 17:07:33 +0000
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Cc: mic-e@lists.tapr.org, ianwade@netro.co.uk, Urs.Haechler@compaq.com,
picsig@lists.tapr.org, Bob Bruninga <bruninga@nadn.navy.mil>
Message-ID: <LYR6890-55311-1999.12.15-11.23.50--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

In message <4.2.0.58.19991214121007.01635220@oak.ait.fredonia.edu>, John Hansen <hansen@fredonia.edu> writes

>Hi:
>
> I'm wondering if anyone can resolve the following issue for me. When I
>wrote the GPS-E-2 code, I used the MIC-E protocol as listed on the TAPR
>website. For longitudes between 0 and 9 degrees, this protocol seems to
>indicate that one should add 190 to the value for the number of degrees
>(and then of course, add 28). So, for example, if I'm reading this spec
>right, for a longitude of 7 degrees, one should have a value of 7+190+28 =
>225 or 0xE1. This is the value that is produced by the PIC-E running the
>GPS-E-2 code.
>
> Now here's the interesting part. A ham Switzerland reported that that
>WinAPRS gives the wrong position when using the GPS-2-E. He tried both the
>MIC-E and the Kenwood D7 and discovered that at 7 degrees longitude, they
>produce a value of 0x7D (or 125 in decimal) for 7 degrees longitude. After
>subtracting the obligatory 28, this would be a value of 97, implying that
>90 had been added instead of the 190 that seems to be called for in the
>protocol specification. Both the MIC-E and the D7 reportedly produce the
>correct position on WinAPRS when using this value.

John, I think you may have fallen into the same trap as I did when I started trying to understand this thing. The Mic-E documentation on the TAPR site tells you how to DEcode Mic-E data. It does *not* tell you how to ENcode it.

When I wrote up the Mic-E section in the APRS Protocol spec I had to do a lot of detective work to find out how it really ticks! Here are my conclusions re the longitude computations, which seem to fit the facts when checking against real on-air data. I stress that all of the following is supposition on my part, so confirmation or otherwise from *anyone* will be most welcome.

All of the numbers below are decimal.

1. The transmitted characters are always 7 bit. This means that the highest ASCII code is 127.

2. The widest required contiguous number range is 0-99, for hundredths of minutes of longitude. Thus the transmitted ASCII codes will be in the range 28-127.

3. Except for the h+28 value, where the ASCII char can take any value in the range 28-127, the lowest transmitted value is actually 38, not 28. This is presumably to make the character printable -- this almost works; the exception is when the ASCII code is 127.

4. If the longitude degrees is in the range 0-9, the transmitted values are *not* in the range 28-37. They are in the range 118-127, WITH THE LONGITUDE OFFSET BIT SET. (I have seen this in practice: in the east of England where the longitude just reaches one degree east, a TH-D7 transmits "w", equivalent to ASCII code 119. This really threw me at first, because I noted that the +100 degrees offset bit was set, and wondered how on earth that could be correct if the longitude was only one degree!). This also correlates with your report from the Italian station, where a longitude of 7 degrees produces an ASCII code of 125. Have you asked him if the longitude offset bit was set? I bet it was.

5. If the longitude degrees is in the range 100-109, the transmitted values are *not* in the range 28-37. They are in the range 108-117.

6. To confirm all of this, here is a Mickey Mouse BASIC program I wrote:

~~~~~~~~~~~~~~~~~~~~~~~~
```
REM MIC-E.BAS
CLS

OPEN "C:\APRS\LONG.DAT" FOR OUTPUT AS #1
```
~~~~~~~~~~~~~~~~~~~~~~~~

```
FOR offset = 0 TO 1
        FOR N = 28 TO 127
        D = N - 28
        IF offset = 1 THEN D = D + 100
        LON = D
        IF D >= 180 AND D <= 189 THEN LON = D - 80
        IF D >= 190 AND D <= 199 THEN LON = D - 190
        PRINT #1, "offset: "; offset, "N: "; N; " "; CHR$(N), "D: "; D,
"LONG: "; LON
        NEXT N
NEXT offset
CLOSE
~~~~~~~~~~~~~~~~~~~~~~~
```

Here is some of the output (I've added an asterisk against the LONG values that I believe are *not* transmitted). Note the +100 degree offset in the left-hand column carefully:

```
~~~~~~~~~~~~~~~~~~~~~~~

offset:  0    N:  28       D:  0         LONG:  0 *
offset:  0    N:  29       D:  1         LONG:  1 *
offset:  0    N:  30       D:  2         LONG:  2 *
offset:  0    N:  31       D:  3         LONG:  3 *
offset:  0    N:  32        D:  4         LONG:  4 *
offset:  0    N:  33  !     D:  5         LONG:  5 *
offset:  0    N:  34  "     D:  6         LONG:  6 *
offset:  0    N:  35  #     D:  7         LONG:  7 *
offset:  0    N:  36  $     D:  8         LONG:  8 *
offset:  0    N:  37  %     D:  9         LONG:  9 *
offset:  0    N:  38  &     D:  10        LONG:  10
offset:  0    N:  39  '     D:  11        LONG:  11
offset:  0    N:  40  (     D:  12        LONG:  12
----
offset:  0    N:  125  }    D:  97        LONG:  97
offset:  0    N:  126  ~    D:  98        LONG:  98
offset:  0    N:  127  □    D:  99        LONG:  99
offset:  1    N:  28       D:  100       LONG:  100 *
offset:  1    N:  29       D:  101       LONG:  101 *
offset:  1    N:  30       D:  102       LONG:  102 *
offset:  1    N:  31       D:  103       LONG:  103 *
offset:  1    N:  32        D:  104       LONG:  104 *
offset:  1    N:  33  !     D:  105       LONG:  105 *
offset:  1    N:  34  "     D:  106       LONG:  106 *
offset:  1    N:  35  #     D:  107       LONG:  107 *
offset:  1    N:  36  $     D:  108       LONG:  108 *
offset:  1    N:  37  %     D:  109       LONG:  109 *
offset:  1    N:  38  &     D:  110       LONG:  110
offset:  1    N:  39  '     D:  111       LONG:  111
offset:  1    N:  40  (     D:  112       LONG:  112
------
offset:  1    N:  106  j    D:  178       LONG:  178
offset:  1    N:  107  k    D:  179       LONG:  179
offset:  1    N:  108  l    D:  180       LONG:  100
offset:  1    N:  109  m    D:  181       LONG:  101
offset:  1    N:  110  n    D:  182       LONG:  102
offset:  1    N:  111  o    D:  183       LONG:  103
offset:  1    N:  112  p    D:  184       LONG:  104
offset:  1    N:  113  q    D:  185       LONG:  105
offset:  1    N:  114  r    D:  186       LONG:  106
offset:  1    N:  115  s    D:  187       LONG:  107
offset:  1    N:  116  t    D:  188       LONG:  108
offset:  1    N:  117  u    D:  189       LONG:  109
offset:  1    N:  118  v    D:  190       LONG:  0
offset:  1    N:  119  w    D:  191       LONG:  1
offset:  1    N:  120  x    D:  192       LONG:  2
offset:  1    N:  121  y    D:  193       LONG:  3
offset:  1    N:  122  z    D:  194       LONG:  4
offset:  1    N:  123  {    D:  195       LONG:  5
offset:  1    N:  124  |    D:  196       LONG:  6
offset:  1    N:  125  }    D:  197       LONG:  7
offset:  1    N:  126  ~    D:  198       LONG:  8
offset:  1    N:  127  □    D:  199       LONG:  9
~~~~~~~~~~~~~~~~~~~~~~~
```

My bottom line conclusion is that the original Mic-E documentation is actually correct (in this respect at least, but not in others :-(

Does this make sense?

Next question :-) How are *minutes* of longitude transmitted? The spec
says that if D>=60, then subtract 60. I wonder if it offsets the first
10 values in the same way as for degrees, so that 0-9 minutes is
actually transmitted as ASCII codes 88-97.

73
Ian, G3NRW
Technical Editor, APRS Protocol Specification

--
+---+
| APRS on 144.800 [IO91SX]   ~55km/35 miles NNW of London |
| email: g3nrw@arrl.net |
| |
| APRS PROTOCOL SPEC: http://www.tapr.org/tapr/html/Faprswg.html|
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26. [picsig] Re: Possible descrepancy in the MIC-E Protocol Definition

From: Ian Wade <ian@dowrmain.demon.co.uk>
Date: Wed, 15 Dec 1999 17:35:15 +0000
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-55317-1999.12.15-11.51.10--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

In article <LYR6894-55311-1999.12.15-11.23.50--ian#dowrmain.demon.co.uk@
lists.tapr.org>, Ian Wade <ian@dowrmain.demon.co.uk> writes

>This also correlates with your report from the Italian
>station

ooops. For Italy read Switzerland. It's been a long week!

Ian

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27. [picsig] RAMPICER V2.0

From: "Mike Berg" <mikeberg@midstate.tds.net>
Date: Wed, 15 Dec 1999 21:08:44 -0600
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-55381-1999.12.15-21.22.52--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I've made some changes to the original rampicer.asm program
that to most users, will be un-noticable and mostly improve
reliability. It has the same filename as the original, but the file
header comments indicate version 2.0.
Also, like the original, it requires the FRAM mod be done to the
PIC-E prior to use.
Hope this proves usefull to folks...

73 Mike Berg N0QBH

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28. [picsig] Re: Possible descrepancy in the MIC-E Protocol Definition

From: "Byon Garrabrant" <byon@mail.com>
Date: Thu, 16 Dec 1999 01:24:17 -0800
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-55415-1999.12.16-03.41.00--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On 15 Dec 99, at 17:07, Ian Wade wrote:

> In message <4.2.0.58.19991214121007.01635220@oak.ait.fredonia.edu>, John

> Hansen <hansen@fredonia.edu> writes
> >
> >   I'm wondering if anyone can resolve the following issue for me.
>
> John, I think you may have fallen into the same trap as I did when I
> started trying to understand this thing. The Mic-E documentation on the
> TAPR site tells you how to DEcode Mic-E data. It does *not* tell you how
> to ENcode it.

Here are the non-obvious rules I used to transmit the MIC-E data in
PICE090. I think most of this information came from a message
Steve D posted to the picdev list long ago. I could probably retrieve
it if necessary.

1) if 0 <= Longitude Minutes <= 9 then add 60 to Longitude
Minutes.

2) if 0 <= Longitude Degrees <= 9 then add 190 to Longitude
Degrees.

3) if 100 <= Logitude Degrees <= 109, then ad 80 to Longitude
Degrees.

4) Always add 800 to speed.

5) Always add 400 to bering.

6) In the Destination callsign characters, bit 6 is always the
opposite of bit 7, except in the SSID (last byte) where bit 6 and 7
are both 1. Bit 5 is 1 in all seven bytes.

I think this is the same thing Ian said, but in a slightly different
form. Most of these bugs I found by transmitting my data on the
radio, and watching what (at first, incorrectly) came back over the
radio. Note 6 turned out to be the solution to Steve B. showing up
in the Indian Ocean!

Hope this helps!

Byon

_____
 Byon Garrabrant   N6BG   byon@mail.com

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29. [picsig] Re: Possible descrepancy in the MIC-E Protocol Definition

From: Ian Wade <ian@dowrmain.demon.co.uk>
Date: Thu, 16 Dec 1999 16:48:26 +0000
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-55447-1999.12.16-11.05.37--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

In article <LYR6894-55415-1999.12.16-03.41.00--ian#dowrmain.demon.co.uk@
lists.tapr.org>, Byon Garrabrant <byon@mail.com> writes

Hi Byon. Your points 1-5 agree with my understanding.

>6) In the Destination callsign characters, bit 6 is always the
>opposite of bit 7,

Is this correct? I thought bit 6 was "reserved for future use (currently
0)".

Also, bit 7 depends on the message bit. It could be 1 or 0 -- its
function is not related (as far as I know) in any way to bit 6.

> except in the SSID (last byte) where bit 6 and 7
>are both 1.

Bit 7 is the AX.25 "C" bit, and will always be a 1. Again, bit 6 is

reserved, and should be 0?

> Bit 5 is 1 in all seven bytes.

This is only true for the first 6 bytes when sending a *standard*
message 1 bit (ASCII P-Z left-shifted) or a message 0 bit (ASCII 0-9
left-shifted).

But when sending a *custom* message 1 bit (i.e. ASCII A-K left-shifted)
in any of the first 3 bytes, bit 5 is 0.

Also, when sending ASCII L left-shifted, corresponding to a position
ambiguity space/message 0 bit n any of the first 3 bytes, bit 5 is again
0.

In the SSID byte, bit 5 is again (according to the original Mic-E doc)
"reserved for future use, currently 0).

Please tell me if I'm wrong in any of these assertions.

>Hope this helps!

It certainly did!

73
Ian, G3NRW
Technical Editor, APRS Protocol Specification

--
+---+
| APRS on 144.800 [IO91SX]   ~55km/35 miles NNW of London |
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30. [picsig] Re: Possible descrepancy in the MIC-E Protocol Definition

From: Ian Wade <ian@dowrmain.demon.co.uk>
Date: Thu, 16 Dec 1999 17:02:18 +0000
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-55450-1999.12.16-11.18.00--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

In article <LYR6894-55447-1999.12.16-11.05.37--ian#dowrmain.demon.co.uk@
lists.tapr.org>, Ian Wade <ian@dowrmain.demon.co.uk> writes

I've just re-read what I wrote:

>> Bit 5 is 1 in all seven bytes.
>
>This is only true for the first 6 bytes when sending a *standard*
>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>^

I should have said 3, not 6. (The message bits only span 3 bytes, not
6).

Ian

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31. [picsig] Re: Possible descrepancy in the MIC-E Protocol Definition

From: John Hansen <hansen@fredonia.edu>
Date: Thu, 16 Dec 1999 13:01:47 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>

Message-ID: <LYR6890-55452-1999.12.16-12.09.21--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 01:24 AM 12/16/99 -0800, you wrote:

>2) if 0 <= Longitude Degrees <= 9 then add 190 to Longitude
>Degrees.

Byon, this is exactly what I'm doing. This will result in a value that is
certainly over 127. If I read Ian's message correctly (and I've got to go
back and study it carefully... unfortunately this is final exams week) he
said this value should never be over 127. Hmmmmm.

John

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32. [picsig] Re: Possible descrepancy in the MIC-E Protocol Definition

From: Ian Wade <ian@dowrmain.demon.co.uk>
Date: Thu, 16 Dec 1999 20:10:21 +0000
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-55467-1999.12.16-14.26.10--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

In article <LYR6894-55452-1999.12.16-12.09.21--ian#dowrmain.demon.co.uk@
lists.tapr.org>, John Hansen <hansen@fredonia.edu> writes
>At 01:24 AM 12/16/99 -0800, you wrote:
>
>
>>2) if 0 <= Longitude Degrees <= 9 then add 190 to Longitude
>>Degrees.
>
>Byon, this is exactly what I'm doing. This will result in a value that is
>certainly over 127. If I read Ian's message correctly (and I've got to go
>back and study it carefully... unfortunately this is final exams week) he
>said this value should never be over 127. Hmmmmm.
>

John, the total computed value *does* go over 127 in this case. But
because that is >= 100, you set the longitude offset bit in the
destination address, which accounts for 100 degrees of that total.

For example, for a longitude of 7 degrees, adding 190 gives a total of
197. This is >= 100, so set the offset bit to account for 100 degrees of
this total, and subtract 100. This leaves 97. Adding 28 to 97 gives the
ASCII code to transmit as the d+28 character in the Information field.
i.e the ASCII code is 125, which *is* <= 127.

I suspect that omitting to set the 100 degrees longitude offset bit in
the destination address is the root of your problem. On the surface it
looks the wrong thing to do when you know the longitude is only a few
degrees (0-9), but it all comes out in the wash.

A similar thing happens when the longitude is in the range 100-109
degrees. In that case, you add 80 to the longitude. For example, for a
longitude of 107 degrees, adding 80 gives you 187. This is >= 100, so
set the longitude offset bit and subtract 100. Adding 28 to the
remainder (87) gives the transmitted ASCII code 115, which again is <=
127.

If you look at the output of the BASIC program I listed yesterday you'll
see his magic happen, where the transmitted ASCII code N is in the range
108-127 WITH THE LONGITUDE OFFSET BIT SET.

73
Ian, G3NRW
Technical Editor, APRS Protocol Specification

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+--+
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33. [picsig] Re: Possible descrepancy in the MIC-E Protocol Definition

From: John Hansen <hansen@fredonia.edu>
Date: Thu, 16 Dec 1999 15:45:13 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-55475-1999.12.16-15.01.17--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 08:10 PM 12/16/99 +0000, you wrote:
>In article <LYR6894-55452-1999.12.16-12.09.21--ian#dowrmain.demon.co.uk@
>lists.tapr.org>, John Hansen <hansen@fredonia.edu> writes
> >At 01:24 AM 12/16/99 -0800, you wrote:
> >
> >
> >>2) if 0 <= Longitude Degrees <= 9 then add 190 to Longitude
> >>Degrees.
> >
> >Byon, this is exactly what I'm doing. This will result in a value that is
> >certainly over 127. If I read Ian's message correctly (and I've got to go
> >back and study it carefully... unfortunately this is final exams week) he
> >said this value should never be over 127. Hmmmmm.
> >
>
>John, the total computed value *does* go over 127 in this case. But
>because that is >= 100, you set the longitude offset bit in the
>destination address, which accounts for 100 degrees of that total.

Ah!, the nickel just dropped, as we say in this country. I assumed that
bit was set when the longitude went over 100 degrees not when the
transmitted value went over 100 degrees. This is the cause of my
problem. I'll see what I can do to fix it.

Thanks!

John W2FS

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34. [picsig] Re: Possible descrepancy in the MIC-E Protocol Definition

From: Ian Wade <ian@dowrmain.demon.co.uk>
Date: Thu, 16 Dec 1999 21:16:26 +0000
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-55480-1999.12.16-15.32.31--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

In article <LYR6894-55475-1999.12.16-15.01.17--ian#dowrmain.demon.co.uk@
lists.tapr.org>, John Hansen <hansen@fredonia.edu> writes
>
>Ah!, the nickel just dropped, as we say in this country. I assumed that
>bit was set when the longitude went over 100 degrees not when the
>transmitted value went over 100 degrees.

That was exactly my misunderstanding when I first looked at Mic-E. I'm
glad the "penny" dropped :-)

Now, another thing. In the original Mic-E documentation, the destination
address field format shows the 4-bit latitude digits in bit positions
1-4 of each of the first 6 bytes. So if, for example, the first byte
contains 10100110, this indicates that the "A" message bit is set and
the latitude digit is 0011 (i.e. "3"). The 10100110 bit pattern
corresponds to the ASCII character "S", shifted one bit left as per the
AX.25 spec. Also, the Mic-E doc confirms that ASCII "S" corresponds to
latitude "3".

No problem thus far.

However, the Mic-E doc also says that for a *custom* message bit set to
1, the corresponding ASCII character for latitude value "3" is "D".
Shifting the ASCII code for "D" one bit left, you get 10001000. Again,
the "A" message bit is set, but the 4-bit latitude value is 0100. That
is "4", not "3". Is this a mistake in the spec?

73
Ian, G3NRW
Technical Editor, APRS Protocol Specification

--
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35. [picsig] Re: Possible descrepancy in the MIC-E Protocol Definition

From: "Byon Garrabrant" <byon@mail.com>
Date: Thu, 16 Dec 1999 13:52:37 -0800
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-55485-1999.12.16-16.08.20--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On 16 Dec 99, at 16:48, Ian Wade wrote:

> In article <LYR6894-55415-1999.12.16-03.41.00--ian#dowrmain.demon.co.uk@
> lists.tapr.org>, Byon Garrabrant <byon@mail.com> writes
>
>
> Hi Byon. Your points 1-5 agree with my understanding.

Hi Ian,

    Yes, it looked like we were in sync there!

> >6) In the Destination callsign characters, bit 6 is always the
> >opposite of bit 7,
>
> Is this correct? I thought bit 6 was "reserved for future use (currently
> 0)".
>
> Also, bit 7 depends on the message bit. It could be 1 or 0 -- its
> function is not related (as far as I know) in any way to bit 6.

I set bit 7 as needed from the message (ABC) and other (NWL)
bits, and then set bit 6 to the opposite. I don't remember where I
got this from. Could have been an eMail from Steve D mentioning
the callsigns should all be uppercase, or from monitoring packet
from a MIC-E over the air and from the net. I think the reasoning is
to keep the byte printable. If bit 6 AND bit 7 were 0, then the right-
shifted value of the byte (with DDDD = 0) could be 0x10, (Ctrl-P),
and thus not printable. By setting bit 6 to ~bit 7, that keeps the
right-shifted chas in the range '0' .. '?' and 'P' .. '_' .

> > except in the SSID (last byte) where bit 6 and 7
> >are both 1.
>
> Bit 7 is the AX.25 "C" bit, and will always be a 1. Again, bit 6 is
> reserved, and should be 0?

In monitoring UI packets, I noticed that bit 5 and 6 are always 1, so
I followed. I've seen bit 7 ('C') both 0 and 1 on the air.

> > Bit 5 is 1 in all seven bytes.
>
> This is only true for the first 6 bytes when sending a *standard*
> message 1 bit (ASCII P-Z left-shifted) or a message 0 bit (ASCII 0-9
> left-shifted).
>
> But when sending a *custom* message 1 bit (i.e. ASCII A-K left-shifted)
> in any of the first 3 bytes, bit 5 is 0.
>
> Also, when sending ASCII L left-shifted, corresponding to a position
> ambiguity space/message 0 bit n any of the first 3 bytes, bit 5 is again
> 0.
>
> In the SSID byte, bit 5 is again (according to the original Mic-E doc)

> "reserved for future use, currently 0).

I got the bit 5 == 1 from the May 1997 MIC-E document. It may
have been changed since then. You lost me with the
"standard/custom" thing. Can you go into more detail? It sounds
like you are doing to bit 5 what I was doing to bit 6 in order to keep
the byte printable.

> Please tell me if I'm wrong in any of these assertions.

I don't know any of this for sure, it just seemed to work correctly in
practice. :)

73,
Byon

_____
 Byon Garrabrant   N6BG   byon@mail.com

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36. [picsig] Re: Possible descrepancy in the MIC-E Protocol Definition

From: Ian Wade <ian@dowrmain.demon.co.uk>
Date: Thu, 16 Dec 1999 22:58:50 +0000
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-55492-1999.12.16-17.14.39--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

In article <LYR6894-55485-1999.12.16-16.08.20--ian#dowrmain.demon.co.uk@
lists.tapr.org>, Byon Garrabrant <byon@mail.com> writes

>I got the bit 5 == 1 from the May 1997 MIC-E document. It may
>have been changed since then. You lost me with the
>"standard/custom" thing. Can you go into more detail?

Byon, I think the key to all of this is in the Mic-E doc. I'm reading
the version by Alan Crosswell/Ron Parsons from the TAPR website. It
contains a 4-column table of the latitude digits and the corresponding
ASCII characters transmitted for 1 and 0 message/N/W/L bits and the so-
called "custom message bit". (BTW, the second and third column headings
are incorrect -- they should be transposed).

That table shows all the ASCII characters used for all possible
combinations -- they are all upper-case letters, digits or a space.
These characters are then shifted one bit left prior to transmission.
These shifted characters are the bit patterns you see in the first 6
bytes of the dest address.

If you look at the shifted bit patterns for all the ASCII characters in
the table, you'll see why I made the statements about how bits 5, 6 and
7 can be set (or not).

73
Ian, G3NRW
Technical Editor, APRS Protocol Specification

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+--+
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| email: g3nrw@arrl.net |
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| APRS PROTOCOL SPEC: http://www.tapr.org/tapr/html/Faprswg.html|
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37. [picsig] Standard and Custom messages

From: Ian Wade <ian@dowrmain.demon.co.uk>
Date: Fri, 17 Dec 1999 06:52:14 +0000
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>

Message-ID: <LYR6890-55587-1999.12.17-01.08.11--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I need to verify my understanding of how Mic-E encodes standard and
custom messages. Could someone please fire up their Mic-E and tell me:

1. The latitude of your station.

2. The destination address transmitted for *standard* message #3
   (Returning).

3. The destination address transmitted for *custom* message #3.

(N.B. I need this information from a *Mic-E*, not a PIC-E).

>From the Mic-E manual, I assume that you distinguish standard message 3
from custom message 3 by setting the "Msg" switch on the front panel to
"SSID 3" or "DIGI 3". Is this correct? If so, what do the modes "SSID"
and "DIGI" mean in relationship to messages? I don't see how these modes
are in any way related to messages.

73
Ian, G3NRW
Technical Editor, APRS Protocol Specification

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+--+
| APRS on 144.800 [IO91SX]   ~55km/35 miles NNW of London |
| email: g3nrw@arrl.net |
| |
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38. [picsig] Re: Standard and Custom messages

From: John Rauch <john_rauch@email.com>
Date: Fri, 17 Dec 1999 06:48:11 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-55597-1999.12.17-06.04.51--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Really Ian, this is getting a bit ridiculous!
If you are working with the authors of the software who are members of this
committee, WHY in heavens name is this information not directly available
to you from the author of the software for the MIC-E???

Are you having to do "reverse engineering" to get the specs out??? If so,
why the "apparent" lack of support from this author???

my $.50 worth.... (inflation, you know)   ;-) John

At 06:52 AM 12/17/1999 +0000, you wrote:
>I need to verify my understanding of how Mic-E encodes standard and
>custom messages. Could someone please fire up their Mic-E and tell me:
>
>1. The latitude of your station.
>
>2. The destination address transmitted for *standard* message #3
>   (Returning).
>
>3. The destination address transmitted for *custom* message #3.
>
>(N.B. I need this information from a *Mic-E*, not a PIC-E).
>
>>From the Mic-E manual, I assume that you distinguish standard message 3
>from custom message 3 by setting the "Msg" switch on the front panel to
>"SSID 3" or "DIGI 3". Is this correct? If so, what do the modes "SSID"
>and "DIGI" mean in relationship to messages? I don't see how these modes
>are in any way related to messages.
>
>73
>Ian, G3NRW
>Technical Editor, APRS Protocol Specification
>
>--

```
>+------------------------------------------------------------------+
>| APRS on 144.800  [IO91SX]         ~55km/35 miles NNW of London  |
>|                     email: g3nrw@arrl.net                        |
>|                                                                  |
>| APRS PROTOCOL SPEC:   http://www.tapr.org/tapr/html/Faprswg.html|
>+------------------------------------------------------------------+
>
>---
>You are currently subscribed to picsig as: n4jhr@earthlink.net
>To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org
>
>
>
"The Second Admendment guarantees all the rest!"
"It 'tant 'bout duck hunt'in"
_____________________________________
John Rauch, Control Operator for
Amateur Radio Station N4JHR
c/o 1450 West Lake Brantley Road
Longwood, Florida 32779-4766
(407)869-1450, (407)869-6658 Fax
n4jhr@email.com
Lat. N28 41.128, Lon. W081 26.155

---
You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org
```

39. [picsig] Re: Standard and Custom messages

From: Bob Bruninga <bruninga@nadn.navy.mil>
Date: Fri, 17 Dec 1999 08:47:54 -0500 (EST)
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-55617-1999.12.17-08.02.55--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Fri, 17 Dec 1999, Ian Wade wrote:

> I need to verify my understanding of how Mic-E encodes standard and
> custom messages. Could someone please fire up their Mic-E and tell me:
>
> >From the Mic-E manual, I assume that you distinguish standard message 3
> from custom message 3 by setting the "Msg" switch on the front panel to
> "SSID 3" or "DIGI 3". Is this correct? If so, what do the modes "SSID"
> and "DIGI" mean in relationship to messages? I don't see how these modes
> are in any way related to messages.

2 Answers:

1) Custom messages are only implemented (to my knowledge) in the prototype Kenwood radios. We worked it out last year while Kenwood was finalizing the design of the THD7, but it did not make it into production models. But it is in some of the post-production models (held by a few beta testers), and it is built into the new TMD700... It is also not implemented in the Mic-E and probably will not be. It is a post-Mic-E option.

2) Unrelated is the SSID/DIGI switch. THis is unrelated to messsages in function, but is related in hardware in that the front panel had no room for another switch, yet the 4th bit of the MESSAGE SWITCH was unused (7 messages = 3 bits). THus, this 4th bit was conveniently used to select the SSID/DIGI function. THus the front panel splits this 16 position rotary switch in half. If the LEFT hand 7 messages are selected, then you are in SSID mode. If the right 7 messages are selected, then you are in DIGI mode...

Hope this helps.

Oh, therefore, the CUSTOM messages must clearly be marked as an OPTION. It is NOT required for compliance. THis is consistent, since the CUSTOM messages will never be used by anyone unless they are in a "closed" system or a group where they have APRIORI agreed as to what C0 through C6 mean anyway. Thus they either all have compatible radios or they dont use it anyway... Please mark this as "OPTIONAL" in the spec... Thanks..

Bob

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

40. [picsig] Re: Standard and Custom messages

From: Ian Wade <ian@dowrmain.demon.co.uk>
Date: Fri, 17 Dec 1999 15:04:44 +0000
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-55627-1999.12.17-09.20.30--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

In article <LYR6894-55617-1999.12.17-08.02.55--ian#dowrmain.demon.co.uk@
lists.tapr.org>, Bob Bruninga <bruninga@nadn.navy.mil> writes

>
>1) Custom messages are only implemented (to my knowledge) in the prototype
>Kenwood radios. We worked it out last year while Kenwood was finalizing
>the design of the THD7, but it did not make it into production models.
>But it is in some of the post-production models (held by a few beta
>testers), and it is built into the new TMD700... It is also not
>implemented in the Mic-E and probably will not be. It is a post-Mic-E
>option.
>
>2) Unrelated is the SSID/DIGI switch. THis is unrelated to messsages in
>function, but is related in hardware in that the front panel had no room
>for another switch, yet the 4th bit of the MESSAGE SWITCH was unused (7
>messages = 3 bits). THus, this 4th bit was conveniently used to select
>the SSID/DIGI function. THus the front panel splits this 16 position
>rotary switch in half. If the LEFT hand 7 messages are selected, then you
>are in SSID mode. If the right 7 messages are selected, then you are in
>DIGI mode...
>
>Hope this helps.
>
>Oh, therefore, the CUSTOM messages must clearly be marked as an OPTION.
>It is NOT required for compliance. THis is consistent, since the CUSTOM
>messages will never be used by anyone unless they are in a "closed" system
>or a group where they have APRIORI agreed as to what C0 through C6 mean
>anyway. Thus they either all have compatible radios or they dont use it
>anyway... Please mark this as "OPTIONAL" in the spec... Thanks..
>

OK.

To summarize, then:

1. Mic-E does *not* support custom messages. Never has. Probably never
will.

2. A handful of beta TH-D7s may support custom messages, but not
production versions.

3. The TM-D700 will support custom messages.

Next question: As you say the custom messages feature is now built in to
the TM-D700, how is the encoding actually done?

73
Ian, G3NRW
Technical Editor, APRS Protocol Specification

--
+---+
| APRS on 144.800 [IO91SX]   ~55km/35 miles NNW of London |
| email: g3nrw@arrl.net |
| |
| APRS PROTOCOL SPEC: http://www.tapr.org/tapr/html/Faprswg.html|
+---+

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

41. [picsig] Re: Standard and Custom messages

From: Jeff King <jeff@aerodata.net>
Date: Fri, 17 Dec 1999 15:24:27 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>

Message-ID: <LYR6890-55675-1999.12.17-14.37.37--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

John Rauch wrote:

> If you are working with the authors of the software who are members of this
> committee, WHY in heavens name is this information not directly available
> to you from the author of the software for the MIC-E???

My guess would be because none of the authors (ones who wrote the source
code) for either the MIC-E or PIC-E (asm or C version) are on the APRS-WG
committee. And the ones who have or are implementing a transmitting version
of MIC-E are on PICSIG and not on the WG list.

While maybe a bit off topic, I'm glad this is being discussed on list. I'm sure
I'll have many of the same issues if I ever write a MIC-E type application
and its easier to learn from others.

73

Jeff

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To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

42. [picsig] Re: Standard and Custom messages

From: John Rauch <john_rauch@email.com>
Date: Fri, 17 Dec 1999 17:36:06 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-55686-1999.12.17-16.55.44--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Good point! It looks like several people are putting in a large amount of
time to help
"open up" this mode...   That is very nice, and ultimately will provide an
environment that will provide for a new surge of creativity, in common
directions.

Thanks for your point of view! Very constructive!

John

At 03:24 PM 12/17/1999 -0500, you wrote:
>
>
>John Rauch wrote:
>
>> If you are working with the authors of the software who are members of this
>> committee, WHY in heavens name is this information not directly available
>> to you from the author of the software for the MIC-E???
>
>My guess would be because none of the authors (ones who wrote the source
>code) for either the MIC-E or PIC-E (asm or C version) are on the APRS-WG
>committee. And the ones who have or are implementing a transmitting version
>of MIC-E are on PICSIG and not on the WG list.
>
>While maybe a bit off topic, I'm glad this is being discussed on list. I'm
sure
>I'll have many of the same issues if I ever write a MIC-E type application
>and its easier to learn from others.
>
>73
>
>Jeff
>
>
>
>---
>You are currently subscribed to picsig as: n4jhr@earthlink.net
>To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org
>
>
>
"The Second Admendment guarantees all the rest!"
"It 'tant 'bout duck hunt'in"
____
John Rauch, Control Operator for

Amateur Radio Station N4JHR
c/o 1450 West Lake Brantley Road
Longwood, Florida 32779-4766
(407)869-1450, (407)869-6658 Fax
n4jhr@email.com
Lat. N28 41.128, Lon. W081 26.155

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

43. [picsig] Re: [aprsspec] Mic-E Destination Address Field

From: Ian Wade <ian@dowrmain.demon.co.uk>
Date: Sat, 18 Dec 1999 22:35:03 +0000
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-55840-1999.12.18-16.51.14--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

In article <LYR11659-55464-1999.12.16-13.32.33--ian#dowrmain.demon.co.uk@l
ists.tapr.org>, Lief Hendrickson <lhendric@mail.sdsu.edu> writes
>The following related comments apply to Chapter 10, APRS Protocol Version
>1.0. For these comments, LSB is numbered as zero.
>
>1. Page 37. There appears to be inadequate definition in MIC-E
>Destination Address Field-
>The fifth bit in each of the first 6 bytes of the destination field is not
>adequately defined. It is shown by the symbol "x" (the 9th bullet on page
>37) which we are told is either a 0 or 1. However, there is no definition
>of where the 0 or 1 come from. We can handle the value of x as being part
>of the bit pattern for the corresponding letter and then follow the table.
>However, what is the purpose of the "x" parameter? The condition
>corresponding to 0 and the condition corresponding to 1 should be
>specified...unless it's a secret! It it just a flag to indicate the
>shifted sequence? If so, why even bother since the P thru Z sequence could
>convey the same information.
>
>2. page 38. The convention on latitude digit for letters A thru K is not
>clear-
>The representation on page 37 indicates the latitude digits are the
>numerical value of the nibble made up of bits 1 thru 4 (shown as "dddd" in
>the 1st and 2nd bytes, "mmmm" in the 3rd and 4th bytes and "hhhh" in the
>5th and 6th bytes). For the letter "A", the nibble is 0001. This is
>clearly the decimal value 1, not the decimal value 0 shown in the upper
>table on page 38. For "B", the corresponding nibble is 0010 which is the
>decimal value 2, not the decimal value 1 shown in the table, etc. for the
>remaining letters in the A to J sequence. They are all shifted by 1.
>Possibly the notation "(custom)" in the table indicates it is a look-up
>table (consisting of a offset-by-one pattern) for the A to J sequence
>rather then the numerical value of the nibble (which would make more
>sense!). If so, it should be stated- and one would wonder the reason (and
>value) for this difference in representation over the more straight-forward
>direct numerical value of the nibble.
>
>
>I may have missed some reason for the above. Explanation or corrections of
>interpretation would be appreciated.

Hi Lief.

The key to all of this is the table at the top of page 38 of the APRS
Protocol spec draft (Mic-E Destination Address Field Encoding). It shows
all of the possible ASCII characters (that will be left-shifted by one bit
on transmission, per the AX.25 spec) for the first six address bytes.

Example 1: From the table, if the first address byte contains the letter
"S", it represents the latitude digit "3" and a *standard* message "1"
bit. The corresponding transmitted bit pattern is 10100110 (i.e. the
letter "S" shifted one bit left). In this case, the "x" bit (bit 5) is
"1".

Example 2: From the table, if the first byte contains the letter "D", it
again represents the latitude digit "3", but this time with the *custom*
message bit set. The transmitted bit pattern is 10001000 (i.e. "D" left
shifted). In this case, bit 5 is "0".

So this shows how bit 5 can be either a "1" or a "0".

NOTE: In example 1, the latitude value corresponds to bits 1-4 (0011), but
in example 2, the latitude value is one less than the value of bits 1-4
(as you correctly pointed out).

This means that there is actually an error in the documentation on page
37. The first bullet (under the format diagram) should read:

~~~~~~~~~~~~~~~~
* Six encoded latitude 4-bit nibbles specifying degrees, minutes ... etc

~~~~~~~~~~~~~~~~

That is, the word "encoded" replaces "binary-coded-decimal", since the
nibble is not necessarily a BCD digit as originally stated.

Bottom line: the table at the top of page 38 is the fundamental definition
of the address encoding. I will be changing much of the the text on page
37 to emphasize this. I will also be adding examples like the ones above.

Sorry for any confusion -- this thing had me confused for months before I
finally cracked it!

73
Ian, G3NRW
Technical Editor, APRS Protocol Specification

--
+---+
| APRS on 144.800 [IO91SX]   ~55km/35 miles NNW of London |
| email: g3nrw@arrl.net |
| |
| APRS PROTOCOL SPEC: http://www.tapr.org/tapr/html/Faprswg.html|
+---+

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44. [picsig] ICD stability?

From: Jeff King <jeff@aerodata.net>
Date: Sun, 19 Dec 1999 22:11:33 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-55983-1999.12.19-21.24.18--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I'm trying to use a ICD with MP-Lab. Sorry for the non-technical
language, but it seems very unstable, and more a art to get it to work
then anything you can count on.

This may be more a MP-LAB issue, but was wondering if anyone
had anything glowing to say about the ICD? I don't so far.

-Jeff

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45. [picsig] Pic-E problem.....

From: "John M." <endeavor@ultranet.com>
Date: Sun, 19 Dec 1999 23:29:38 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-55996-1999.12.19-22.48.46--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi All,

I just bought a Pic-E kit, and I'm having some difficulty getting the
results I expect with John Hansens GPS software. The Pic-E itself seems to
be working as expected. I have a Garmin GPS-20 connected to it, and it
beacons every 10 seconds as programmed. The problem is that I am unable to
receive the transmission that is sent. At first I tried it over the air
with no success, and then tried it connected directly to my TNC (Paccom
PicoPacket) with the same result. Now I'm wondering if I should really be
able to decode the data with a "standard" TNC. Is the Pic-E sending an
AX.25 compatible format? Do I need to set up my receive TNC in any special
way to allow me to receive the Pic-E? I've tried the fulll range of the

transmit level adjustment pot, so I don't think its a deviation problem
(the DCD light illuminates on the receive TNC during Pic-E transmit). Any
thoughts???

Best Regards,

John KA1JMF

You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

46. [picsig] Re: Pic-E problem.....

From: "KC5GOI" <kc5goi@kc5goi.net>
Date: Sun, 19 Dec 1999 23:01:19 -0600
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-55998-1999.12.19-23.17.26--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

John, the pic-e sends out packets in ax.25. What I would suggest is that
you check the version of the GPS-E program you are using. I ran into a
simular problem this year. The last 3 releases of Jon Hansens firmware have
fixed the problem as far as the kpc3 is concerned. You might want to run
the diagnostic program first. That will verify if all is ok. Have you
listened to the tone quality that is being sent out? If it is too low or
too high the tnc will ignore them since the devation is not correct.

73, Guy Story
kc5goi@kc5goi.net
http://www.kc5goi.net
940.243.0754
----- Original Message -----
From: John M. <endeavor@ultranet.com>
To: TAPR PIC Development Special Interest Group <picsig@lists.tapr.org>
Sent: Sunday, December 19, 1999 10:29 PM
Subject: [picsig] Pic-E problem.....

> Hi All,
>
> I just bought a Pic-E kit, and I'm having some difficulty getting the
> results I expect with John Hansens GPS software. The Pic-E itself seems
to
> be working as expected. I have a Garmin GPS-20 connected to it, and it
> beacons every 10 seconds as programmed. The problem is that I am unable to
> receive the transmission that is sent. At first I tried it over the air
> with no success, and then tried it connected directly to my TNC (Paccom
> PicoPacket) with the same result. Now I'm wondering if I should really be
> able to decode the data with a "standard" TNC. Is the Pic-E sending an
> AX.25 compatible format? Do I need to set up my receive TNC in any
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> way to allow me to receive the Pic-E? I've tried the fulll range of the
> transmit level adjustment pot, so I don't think its a deviation problem
> (the DCD light illuminates on the receive TNC during Pic-E transmit). Any
> thoughts???
>
> Best Regards,
>
> John KA1JMF
>
>
>
> ---
> You are currently subscribed to picsig as: kc5goi@infospeedway.net
> To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

---
You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

47. [picsig] Re: Pic-E problem.....

From: John Morley <jmorley@endeavour-usa.com>
Date: Mon, 20 Dec 1999 23:23:27 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-56129-1999.12.20-22.42.43--lyris.picsig#tapr.org@lists.tapr.org>

Rendered body type: text/plain

Guy,

Thanks for the feedback. It turns out that I was using an old version of
the software (it came with my Pic-E unit a week ago). After getting the
latest code from the tapr site, all is now well!!!

Thanks!

John KA1JMF

At 11:01 PM 12/19/99 -0600, you wrote:
>John, the pic-e sends out packets in ax.25. What I would suggest is that
>you check the version of the GPS-E program you are using. I ran into a
>simular problem this year. The last 3 releases of Jon Hansens firmware have
>fixed the problem as far as the kpc3 is concerned. You might want to run
>the diagnostic program first. That will verify if all is ok. Have you
>listened to the tone quality that is being sent out? If it is too low or
>too high the tnc will ignore them since the devation is not correct.
>
>73, Guy Story
>kc5goi@kc5goi.net
>http://www.kc5goi.net
>940.243.0754
>----- Original Message -----
>From: John M. <endeavor@ultranet.com>
>To: TAPR PIC Development Special Interest Group <picsig@lists.tapr.org>
>Sent: Sunday, December 19, 1999 10:29 PM
>Subject: [picsig] Pic-E problem.......
>
>
>> Hi All,
>>
>> I just bought a Pic-E kit, and I'm having some difficulty getting the
>> results I expect with John Hansens GPS software. The Pic-E itself seems
>to
>> be working as expected. I have a Garmin GPS-20 connected to it, and it
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>> transmit level adjustment pot, so I don't think its a deviation problem
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>> thoughts???
>>
>> Best Regards,
>>
>> John KA1JMF
>>
>>
>>
>> ---
>> You are currently subscribed to picsig as: kc5goi@infospeedway.net
>> To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org
>
>
>---
>You are currently subscribed to picsig as: jmorley@endeavour-usa.com
>To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

---
You are currently subscribed to picsig as: lyris.picsig@tapr.org
To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

48. [picsig] Re: Pic-E problem.....

From: "KC5GOI" <kc5goi@kc5goi.net>
Date: Mon, 20 Dec 1999 22:32:23 -0600
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-56134-1999.12.20-22.48.26--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

John, been there and done that. I am glad to hear you got it working. The
code that is on the TAPR PIC-E site is pretty solid. I have 2 of them with
various gps receivers and they work great. I have one connected to the

Mavin GPS a bunch of us got recently. I power the entire assembly, except
radio. off the voltage regulator on the board. I had to use a small heat
sink but it works great.

73, Guy Story
kc5goi@kc5goi.net
http://www.kc5goi.net
940.243.0754
----- Original Message -----
From: John Morley <jmorley@endeavour-usa.com>
To: TAPR PIC Development Special Interest Group <picsig@lists.tapr.org>
Sent: Monday, December 20, 1999 10:23 PM
Subject: [picsig] Re: Pic-E problem.......

> Guy,
>
> Thanks for the feedback. It turns out that I was using an old version of
> the software (it came with my Pic-E unit a week ago). After getting the
> latest code from the tapr site, all is now well!!!
>
> Thanks!
>
> John KA1JMF
>
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> >73, Guy Story
> >kc5goi@kc5goi.net
> >http://www.kc5goi.net
> >940.243.0754
> >----- Original Message -----
> >From: John M. <endeavor@ultranet.com>
> >To: TAPR PIC Development Special Interest Group <picsig@lists.tapr.org>
> >Sent: Sunday, December 19, 1999 10:29 PM
> >Subject: [picsig] Pic-E problem.......
> >
> >
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> >>
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Any
> >> thoughts???
> >>
> >> Best Regards,
> >>
> >> John KA1JMF
> >>
> >>
> >>
> >> ---
> >> You are currently subscribed to picsig as: kc5goi@infospeedway.net
> >> To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org
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> >
> >---
> >You are currently subscribed to picsig as: jmorley@endeavour-usa.com
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49. [picsig] Re: Possible descrepancy in the MIC-E Protocol Definition

From: Ian Wade <ian@dowrmain.demon.co.uk>
Date: Tue, 21 Dec 1999 06:43:32 +0000
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-56164-1999.12.21-01.06.20--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

In article <LYR6894-55475-1999.12.16-15.01.17--ian#dowrmain.demon.co.uk@
lists.tapr.org>, John Hansen <hansen@fredonia.edu> writes
>
>Ah!, the nickel just dropped, as we say in this country. I assumed that
>bit was set when the longitude went over 100 degrees not when the
>transmitted value went over 100 degrees. This is the cause of my
>problem. I'll see what I can do to fix it.
>

John, can you make an announcement when you've fixed this bug? Then I'll
order a PIC-E :-))

Have a great Christmas!

73
Ian, G3NRW
Technical Editor, APRS Protocol Specification

--
+--+
| APRS on 144.800 [IO91SX]   ~55km/35 miles NNW of London |
| email: g3nrw@arrl.net |
| |
| APRS PROTOCOL SPEC: http://www.tapr.org/tapr/html/Faprswg.html|
+--+

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50. [picsig] Re: Possible descrepancy in the MIC-E Protocol Definition

From: John Hansen <hansen@fredonia.edu>
Date: Tue, 21 Dec 1999 07:36:52 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-56175-1999.12.21-06.53.14--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 06:43 AM 12/21/99 +0000, you wrote:
>In article <LYR6894-55475-1999.12.16-15.01.17--ian#dowrmain.demon.co.uk@
>lists.tapr.org>, John Hansen <hansen@fredonia.edu> writes
> >
> >Ah!, the nickel just dropped, as we say in this country. I assumed that
> >bit was set when the longitude went over 100 degrees not when the
> >transmitted value went over 100 degrees. This is the cause of my
> >problem. I'll see what I can do to fix it.
> >
>
>
>John, can you make an announcement when you've fixed this bug? Then I'll
>order a PIC-E :-))
>
>Have a great Christmas!
>
>73
>Ian, G3NRW
>Technical Editor, APRS Protocol Specification

It is fixed. I've not yet posted the revised code to the software section
yet. I'll try to get it up there in the next day or two.

Thanks for straightening me out on this issue.

John W2FS

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51. [picsig] Re: ICD stability?

From: Jeff King <jeff@aerodata.net>
Date: Tue, 21 Dec 1999 10:09:43 -0500
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-56196-1999.12.21-09.24.57--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Here are the issues I found.

One problem was there is a mistake in Rev2 of the header PCB.
Seems MicroChip mixed up RB3 with RD3. The fix is to just
cut the trace as LV programming is not supported anyways. There
is a drawing of this on the MicroChip web page.

Another issue was the 6 wire RJ-45 jumper cable Microchip provides.
It appears they may have used the wrong gauge wire for the type of
RJ-45 connector. I noticed that this was intermittent.

Also, of note is the actual ICD itself can draw over 60 ma when programming.
If you project is at the limit already, this could be a issue (such as with a
78L05). Mine wasn't, but I did notice my 78L05 became warm when
programming the entire 8K.

-Jeff

Jeff King wrote:

> I'm trying to use a ICD with MP-Lab. Sorry for the non-technical
> language, but it seems very unstable, and more a art to get it to work
> then anything you can count on.
>
> This may be more a MP-LAB issue, but was wondering if anyone
> had anything glowing to say about the ICD? I don't so far.
>
> -Jeff
>
> ---
> You are currently subscribed to picsig as: jeff@aerodata.net
> To unsubscribe send a blank email to leave-picsig-6890E@lists.tapr.org

---
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52. [picsig] Re: picsig digest: December 19, 1999

From: "Pieter Kriel" <pkriel@pke.co.nz>
Date: Wed, 22 Dec 1999 08:04:45 +1300
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-56224-1999.12.21-13.20.54--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hello Jeff,

Have you got MP-LAB 4.12.12 ? Anything prior to 4.12 is very buggy
(unstable) and not worth a lot other than causing you to lose a lot hair !!!
I know I have !

Regards,
Pieter

-----Original Message-----
From: TAPR PIC Development Special Interest Group digest
<picsig@lists.tapr.org>

To: picsig digest recipients <picsig@lists.tapr.org>
Date: Monday, 20 December 1999 6:46
Subject: picsig digest: December 19, 1999

>TAPR PIC Development Special Interest Group Digest for Sunday, December 19,
1999.
>
>1. ICD stability?
>2. Pic-E problem.......
>3. Re: Pic-E problem.......
>
>--
>
>Subject: ICD stability?
>From: Jeff King <jeff@aerodata.net>
>Date: Sun, 19 Dec 1999 22:11:33 -0500
>X-Message-Number: 1
>
>I'm trying to use a ICD with MP-Lab. Sorry for the non-technical
>language, but it seems very unstable, and more a art to get it to work
>then anything you can count on.
>
>This may be more a MP-LAB issue, but was wondering if anyone
>had anything glowing to say about the ICD? I don't so far.
>
>-Jeff
>
>
>
>--
>
>Subject: Pic-E problem.......
>From: "John M." <endeavor@ultranet.com>
>Date: Sun, 19 Dec 1999 23:29:38 -0500
>X-Message-Number: 2
>
>Hi All,
>
>I just bought a Pic-E kit, and I'm having some difficulty getting the
>results I expect with John Hansens GPS software. The Pic-E itself seems to
>be working as expected. I have a Garmin GPS-20 connected to it, and it
>beacons every 10 seconds as programmed. The problem is that I am unable to
>receive the transmission that is sent. At first I tried it over the air
>with no success, and then tried it connected directly to my TNC (Paccom
>PicoPacket) with the same result. Now I'm wondering if I should really be
>able to decode the data with a "standard" TNC. Is the Pic-E sending an
>AX.25 compatible format? Do I need to set up my receive TNC in any special
>way to allow me to receive the Pic-E? I've tried the fulll range of the
>transmit level adjustment pot, so I don't think its a deviation problem
>(the DCD light illuminates on the receive TNC during Pic-E transmit). Any
>thoughts???
>
>Best Regards,
>
>John KA1JMF
>
>
>
>--
>
>Subject: Re: Pic-E problem.......
>From: "KC5GOI" <kc5goi@kc5goi.net>
>Date: Sun, 19 Dec 1999 23:01:19 -0600
>X-Message-Number: 3
>
>John, the pic-e sends out packets in ax.25. What I would suggest is that
>you check the version of the GPS-E program you are using. I ran into a
>simular problem this year. The last 3 releases of Jon Hansens firmware
have
>fixed the problem as far as the kpc3 is concerned. You might want to run
>the diagnostic program first. That will verify if all is ok. Have you
>listened to the tone quality that is being sent out? If it is too low or
>too high the tnc will ignore them since the devation is not correct.
>
>73, Guy Story
>kc5goi@kc5goi.net
>http://www.kc5goi.net
>940.243.0754

>----- Original Message -----
>From: John M. <endeavor@ultranet.com>
>To: TAPR PIC Development Special Interest Group <picsig@lists.tapr.org>
>Sent: Sunday, December 19, 1999 10:29 PM
>Subject: [picsig] Pic-E problem.......
>
>
>> Hi All,
>>
>> I just bought a Pic-E kit, and I'm having some difficulty getting the
>> results I expect with John Hansens GPS software. The Pic-E itself seems
>to
>> be working as expected. I have a Garmin GPS-20 connected to it, and it
>> beacons every 10 seconds as programmed. The problem is that I am unable
>to
>> receive the transmission that is sent. At first I tried it over the air
>> with no success, and then tried it connected directly to my TNC (Paccom
>> PicoPacket) with the same result. Now I'm wondering if I should really be
>> able to decode the data with a "standard" TNC. Is the Pic-E sending an
>> AX.25 compatible format? Do I need to set up my receive TNC in any
>special
>> way to allow me to receive the Pic-E? I've tried the fulll range of the
>> transmit level adjustment pot, so I don't think its a deviation problem
>> (the DCD light illuminates on the receive TNC during Pic-E transmit).
>Any
>> thoughts???
>>
>> Best Regards,
>>
>> John KA1JMF
>>
>>
>>
>> ---
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>
>
>
>
>---
>
>END OF DIGEST
>
>---
>You are currently subscribed to picsig as: pkriel@pke.co.nz
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53. [picsig] integrated tracker.

From: Ron Graham <rongraham@magnet.com.au>
Date: Thu, 23 Dec 1999 06:13:25 +1000
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Message-ID: <LYR6890-56343-1999.12.22-14.20.37--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Quite some time ago, I remember some one having problems with incorrect
positions being transmitted from a PIC-E when integrated with the $20 Aisin
RX and some sort of radio. As I was planning to do something similar, I was
somewhat concerned.
  Since then, I had integrated the Aisin RX and a clone of the PIC-E. This
forms a reasonably compact unit 4" (100mm) x 2 1/2" (63mm) x 1 1/4" (32mm)
.. .. see previous posings re kit/PCB being available.
  Now, that unit has been fitted inside a 25 watt ex commercial rig (Philips
FM-828) which has been retuned to run on 2 metres. Some "cutting away" of
part of the die cast chassis was involved but the exising Aisin antenna
socket conviently fitted a vacated hole in the rear of the radio. So, one
end up with an integrated unit that only requires a 13.8V power source, 2m
antenna and GPS antenna.
  Some extensive tested was done yesterday, in the shack, and the whole
combination worked well.
  Next test is to install it all in a vehicle and go driving.

Ron, VK4BRG.

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54. [picsig] Pic needed for Kenwood TMV700

From: Bob Bruninga <bruninga@nadn.navy.mil>
Date: Thu, 30 Dec 1999 23:59:07 -0500 (EST)
To: "TAPR PIC Development Special Interest Group" <picsig@lists.tapr.org>
Cc: htaprs@tapr.org, TAPR APRS Special Interest Group <aprssig@tapr.org>
Message-ID: <LYR6890-57370-1999.12.30-23.14.50--lyris.picsig#tapr.org@lists.tapr.org>
Rendered body type: text/plain

The most popular accessory for the new Knewoood mobile APRS radio will be
a KEYBOARD. This is easy to do with a PIC processor and a DTMF encoder.
Just program the PIC to convert the ASCII keyboard characters into the
needed DTMF tones to emulate what the Microphone TTpad does during
alphabetic text entry!

In other words, the letter "A" will be the DTMF "2", and letter "B" will
be two of them, and "C" will be "2 2 2" etc...

It wont be perfect, but it will be an easy external device to build.
I hope someone on this SIG will take this up. THe PIC should take a
normal PS2 keyboard and output DTMF tones. Since the Pic-E already has 8
pin RJ jacks, then it can simply be inserted inbetween the Mic and the
radio to do its thing...

Bob

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